THE ENGINEERING AND MINING JOURNAL AND COAL

(Published Every Saturday at 253 Broadway, New York.
Entered at the Post-Office of New York, N. Y., as Second-Class Mail Matter.

VOL. LXVIII. JULY 29. No. 5.

RICHARD P. ROTHWELL, C. E. M. E., Editor.
ROSSITER W. RAYMOND, Ph. D., M. E., Special Contributor.
THE SCIENTIFIC PUBLISHING CO., Publishers.

Subscriptions are PAYABLE IN ADVANCE. For the United States, Mexico and Canada, $5 per annum; all other countries in the Postal Union, $7.
REMITTANCES should be made by bank drafts, post office orders or express money orders on New York, payable to the Scientific Publishing Co.
When change of address is desired, both old and new address should be sent.
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Main Office: 253 Broadway (P. O. Box 1833), NEW YORK.

Telephone Number, 3,095 Cortlandt.

New York Cable Address—"ROTHWELL." (Use McNeill's or A B C 4th Edition Code.)
London Cable Address—"PULCHRITO." " " " "

Branch Offices: **Chicago, Ill., 737 Monadnock Building, Phone 73 Harrison.**
Denver, Colo., Boston Building, Room 206.
Salt Lake City, Utah, Atlas Building.
San Francisco, Cal., 207 Montgomery Street.

City of Mexico, 104 Ave. Madrid, Robt. S. Barrett, Manager.
Victoria, B. C., Office, 28 Broad Street. Wm. M. Brewer, Manager.
London, Eng., Office, 20 Bucklersbury, 368. H. Walker, Manager.

English subscriptions to the JOURNAL may be paid at the London office at the rate of $7 = £1 8s. 9d.; the publications of the Scientific Publishing Company may be bought at the rate of 4s. 2d. to the dollar, net.

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An interesting incident of the present state of the copper market is the receipt at New York this week of a lot of 9,989 bags—about 250 tons—of copper coins from Indian. These coins, which are consigned to the Orford Copper Company, are shipped here as scrap copper, simply because they are worth more, at the present price of copper, than their face or coin value. We have recently referred to the trouble arising in China from the relatively high metal value of copper coins, and the same condition seems to be felt in India. It will doubtless continue, and we may expect to hear of more imports of the same kind.

The Colorado smelters' strike is gradually being settled. At Leadville the men are generally going to work on the company's terms, which are an increase of from 5 to 10 per cent. in wages for 10 hours' work for skilled labor; and the old wages for unskilled laborers. At Denver the men are holding out for the time, but there is said to be a strong feeling in favor of accepting the terms. Meantime the company is doing nothing, but simply waiting for the men to decide. It is quite probable that the strike will be at an end before another week passes. There has been hardly any reason for it, since the eight-hour law was declared invalid; and public opinion generally does not seem to favor its continuance.

The report of the American Iron and Steel Association for the six months ending June 30th shows that the increase in the production of pig iron in the United States during that period was only a moderate one. It was 384,936 tons, or 6.5 per cent., as compared with the second half of 1898; and 419,464 tons, or 7.2 per cent., as compared with the first half of last year. It was, however, the largest production ever recorded, and was very nearly equal to that of the entire year 1894. The production, classified by descriptions of iron made, is shown in the following table, in long tons, comparisons being made with both halves of 1898:

	First half, 1898.		Second half, 1898.		First half, 1899.	
	Tons.	P. c.	Tons.	P. c.	Tons.	P. c.
Foundry and forge irons	1,718,993	29.3	1,718,344	29.1	1,929,807	30.7
Bessemer pig	3,703,584	63.1	3,633,800	61.5	3,788,907	60.2
Basic pig	337,485	5.7	447,959	7.6	465,957	7.4
Spiegel and ferro	109,641	1.9	104,128	1.8	104,496	1.7
Totals	5,869,703	100.0	5,904,231	100.0	6,289,167	100.0

Perhaps the most notable feature in this table is the relatively greater increase in foundry and forge irons than in steel pig; which is reversing the course of iron production for several years past. The proportion of those grades of iron was greater by about 1.5 per cent. than in 1898.

The stocks of iron unsold fell to the lowest point known for many years; the decrease in those stocks was 210,013 tons during the six months, so that the approximate consumption, after deducting exports, was greater than the production by about 70,000 tons.

The indications are that the current half year will show a large gain over the first half, so that our total production for 1899 will reach nearly, if not quite, 14,000,000 long tons of pig iron.

Our London correspondent has often commented in his letters on the comparative supineness of the English police and public prosecutors in the matter of proceeding against fraudulent promotions in London. Just lately, however, there has been a little more activity on the part of the authorities and quite a number of swindles have been followed up and suitable punishments meted out. A few weeks ago our correspondent mentioned that one Goodman had got his deserts for frauds in connection with the West Australian Gold District Trading Corporation. Now we have another case, but of a different nature. A company called the Coolgardie Mint & Iron King Gold Mines was formed in 1894 by Sir Alfred Kirby, a London merchant, to acquire claims at Coolgardie. Some time afterward it was found necessary to reconstruct in order to provide further capital, and in the course of the transactions necessary to carry this operation through, it was found that some 30,000 shares had been duplicated and that the money so obtained had gone chiefly into Sir Alfred Kirby's pocket, though his son and the secretary of the company were also involved. After due investigation action was taken by the public prosecutor and the three were indicted for fraud at the Old Bailey in London. Unfortunately Sir Alfred Kirby's financial and moral collapse had brought on a mental and physical failure, and his trial was indefinitely adjourned, but the case as regards his son and the secretary was proceeded with. It was shown that they were mere tools and subordinates, so they got off with six months' hard labor. No doubt if Sir Alfred had also stood his trial he would have got a much larger slice of justice. As it is his position is pitiable enough, ruined in fortune and in health and knowing that whenever he should happen to regain his health he will have to go to the Old Bailey to stand his trial.

Another example of police activity is to be found in the arrest of the notorious promoter, Edward Beall, and his partner or co-operator, one Singleton, on a charge of fraud and conspiracy in connection with the London & Scottish Banking and Discount Corporation.

UNITED STATES MINERAL AND METAL PRODUCTION IN 1898.

The statistics of mineral production in the United States, as furnished by the producers and others for "The Mineral Industry," Volume VII., have now been completely collected and arranged, and are presented in the accompanying tables. These show a production which, in nearly all the more important substances, is the greatest ever recorded in our history. The United States was, in 1898, by far the largest producer of iron and steel in the world; was second only to Great Britain—and then by a very small quantity—in the production of coal; and furnished more than half of the total copper supply of the world. No other nation approaches this in the total value of its mineral production.

As the tables show, the classification of the metals, minerals and chemical products has been slightly changed from that of last year, with a view to making the statement more nearly complete and more easily understood. Several substances have been added, and the statement is now fuller, and approaches absolute completeness and correctness more nearly than any which has ever been made or published. Absolute correctness, of course, is too much to hope for; but we strive continually toward the standard.

In accordance with our usual practice we have added to the columns containing the customary measures others giving the weights, in metric tons, or other measures. Comparison with foreign reports is then easy, and the statements are recorded in a form which will be of still greater value hereafter. We hope that, in a very few years, we may be able to dispense altogether with the column of "customary measures," and that the metric measures will then be the customary ones also.

The figures in the table and the brief notes which follow will fully explain the course of our mineral production during the year 1898.

The total value of the mineral production of the United States in 1898 was $709,816,750, against $648,804,899 in 1897. Of the production in 1898, $314,255,620 was the value of metals, against $272,178,392 in the previous year, and $433,659,141 ores and minerals, against $407,913,912 in 1897. The values given for ores and minerals include $38,098,011 in 1898 and $31,287,405 in 1897 for bauxite, manganese and iron ores, which were used for making aluminum, ferromanganese and pig iron. These duplications were deducted in the aggregate values stated above. Eighteen secondary products for which statistics were collected, derived from some of the ores included in these totals, had an aggregate value of $49,432,829 in 1898, against $41,718,420 in 1897. There was also a production of copper, lead, silver and gold from foreign ores and bullion, valued at $58,948,125 in 1898, against $47,127,174 in 1897.

In the preparation of the statistics for this volume the figures previously reported for 1897 have been revised in the light of later and more minute investigation, in accordance with our practice, wherefore it is important for students to observe the caution to use always the figures in the latest volume of "The Mineral Industry." There are no statistical reports of this nature which are absolutely correct, owing to the practical impossibility of obtaining accurate reports from all the producers in some extensive and greatly subdivided industries, the absence of records on the part of many producers which keeps them from making returns, the unwillingness of a few to give their figures, and confusion as to the stage in which many products are to be reported. The last difficulty is especially likely to lead to errors in values, some producers estimating the worth of their product at the pit's mouth, and others reporting it in a more or less advanced state of completion, including thus not only the cost of carriage, but also the cost of manipulation. These difficulties appear not only in our own statistics, but also in the statistics reported by various governments. In our own work, however, we make a practice of going backward and correcting figures previously reported, whenever mistakes are discovered by subsequent investigation. In estimating values we are disposed, therefore, to use actual market prices rather than the values reported by the producers themselves, which are apt to be misleading for the reasons mentioned above.

PRODUCTION OF ORES AND MINERALS IN THE UNITED STATES. (FIRST PRODUCTS.)

Number.	Products.	Customary Measures.	1897. Quantity. Customary Measures.	1897. Quantity. Metric Tons.	1897. Value at Place of Production. a Totals.	1897. Value at Place of Production. a Per M. Ton.	1898. Quantity. Customary Measures.	1898. Quantity. Metric Tons.	1898. Value at Place of Production. a Totals.	1898. Value at Place of Production. a Per M. Ton.
1	Asbestos	Sh. T.	840	762	$12,950	$16·99	885	803	$13,425	$16·72
2	Asphaltum	Sh. T.	27,397	24,854	486,620	19·58	25,690	23,306	482,175	20·69
3	Asphaltic limestone	Sh. T.	2,390	2,168	11,450	5·28	14,099	12,791	70,495	5·51
4	Bitumin's sandstone	Sh. T.	47,470	43,065	136,173	3·16	49,536	44,938	146,275	3 26
5	Barytes	Sh. T.	26,430	23,977	105,720	4·41	28,247	25,626	112,988	4·41
6	Bauxite	L. T.	20,590	20,919	51,475	2·46	26,791	27,220	66,978	2·46
7	Borate of calcium. c	Sh. T.	19,400	17,600	388,000	n22·05	15,335	13,911	306,700	n22·05
8	Bromine	Lb.	487,149	221	136,402	617·19	486,978	221	136,354	617·19
9	Cement, nat. hydraul.	gBbls	7,890,573	1,073,742	3,976,050	3·70	8,161,078	1,110,552	3,819,995	3·44
10	Cement, Portland	hBbls	2,430,903	441,060	3,724,905	8·45	3,584,586	650,383	6,168,106	9·48
11	Chrome ore	L. T.	150	152	1,550	10·17	100	102	1,000	9·84
12	Clay products				56,487,527				58,470,543	
13	Coal, anthracite	Sh. T.	52,645,133	47,759,351	85,857,717	1·80	52,848,605	47,943,940	81,445,937	1·70
14	Coal, bituminous	Sh. T.	148,155,567	134,405,849	120,013,372	0·89	165,208,025	149,875,737	128,419,354	0·86
15	Coal, cannel	Sh. T.	56,511	51,266	153,145	2·99	49,889	45,259	134,700	2·98
16	Cobalt oxide	Lb.	19,300	k8,754	30,880	k3·53	9,640	k4,373	15,424	k3·53
17	Copper sulphate. f	Lb.	16,731,247	7,589	645,826	m85·10	28,061,501	12,729	956,897	m75·18
18	Corundum	Sh. T.	293	266	19,810	74·47	786	713	63,630	89·24
19	Emery	Sh. T.	1,900	1,724	92,000	53·36	2,956	2,682	143,800	53·62
20	Feldspar	L. T.	21,901	22,251	111,392	5·01	21,350	21,692	107,147	4·94
21	Fluorspar	Sh. T.	4,739	4,299	36,264	8·44	12,145	11,018	86,965	7·89
22	Fullers earth	Sh. T.	17,195	15,599	92,398	5·92	15,553	14,110	87,365	6·19
23	Garnet	Sh. T.	2,261	2,051	66,353	32·35	2,882	2,615	92,930	31·71
24	Grahamite	Sh. T.	1,756	1,593	52,680	m33·07	2,675	2,427	80,250	m33·07
25	Graphite, crystalline	Lb.	993,138	k450,484	m44,691	k0·10	1,647,679	k747,382	m148,291	k0·20
26	Graphite, amorphous	Sh. T.	1,200	1,089	11,400	10·47	1,200	1,089	11,400	10·47
27	Gypsum	Sh. T.	300,369	272,493	889,177	3·26	348,686	316,326	989,589	3·13
28	Iron ore	L. T.	18,235,406	18,527,772	30,941,379	1·67	20,655,865	20,986,359	37,593,674	1·79
29	Magnesite	Sh. T.	c1,907	1,730	c7,628	4·41	c2,355	2,136	c9,420	4·41
30	Manganese ore. i	L. T.	158,600	161,147	328,176	2·04	217,782	221,279	481,127	2·17
31	Mica, scrap	Sh. T.	2,882	2,615	o28,820	11·02	3,529	3,201	o39,837	12·44
32	Mica, sheet	Lb.	118,852	k53,911	83,298	k1·55	109,968	k49,881	91,432	k1·83
33	Molybdenite	Sh. T.	*Nil.*	*Nil.*	*Nil.*	*Nil.*	8	7	400	57·14
34	Monazite	Lb.	40,000	18	2,000	110·23	d150,000	68	e7,500	110·23
35	Natural gas				e10,000,000				e10,500,000	
36	Ocher. p	Sh. T.	42,590	38,637	468,490	n12·13	41,950	38,057	461,450	n12·13
37	Petroleum, crude	gBbls	57,124,783	7,902,046	39,372,111	4·93	51,774,465	7,243,509	42,100,522	5·81
38	Phosphate rock	L. T.	1,007,367	1,023,485	3,022,101	2·95	1,257,645	1,277,717	4,355,025	3·41
39	Precious stones				d101,000				e125,000	
40	Pyrites	L. T.	133,368	135,502	404,609	2·99	191,160	194,219	589,329	3·03
41	Salt. q	Bbls	15,822,923	2,009,625	3,898,556	1·94	18,756,394	2,382,197	4,753,664	2·00
42	Silica, brick	M.	20,223		323,561		33,449		590,254	
43	Diatom. earth	Sh. T.	3,000	2,722	30,400	11·17	1,392	1,263	11,002	8·71
44	Flint	Sh. T.	28,407	25,771	55,817	2·17	35,593	32,290	73,313	2·27
45	Sand, etc	L. T.	e750,000	762,000	e1,125,000	1·48	e800,000	812,800	e1,178,560	1·45
46	Pumice	Sh. T.	1,700	1,542	8,500	n5·51	144	131	720	n5·51
47	Grindstones	Sh. T.	36,502	33,114	342,186	10·33	38,859	35,253	438,675	12·44
48	Whetstones				97,229				107,990	
49	Tripoli	Sh. T.	1,631	1,480	5,475	3·70	1,865	1,692	3,367	1·99
50	Slate, roofing	Sq'es.	932,124	281,872	2,829,526	j3·04	1,136,632	343,715	2,958,496	j2·60
51	Manufactures				595,105				528,856	
52	Pigment	Sh. T.	6,857	6,221	57,863	9·30	7,886	7,154	70,671	9·88
53	Soapstone	Sh. T.	16,904	15,335	169,040	n11·02	18,862	17,111	158,635	9·27
54	Soda, natural. r	Sh. T.	6,350	5,761	95,400	16·56	7,150	6,486	94,650	14·59
55	Stone, for building				e30,000,000				e32,500,000	
56	Stone, limestone (flux)	L. T.	4,247,688	4,315,651	1,868,983	0·43	5,275,819	5,360,232	2,304,900	0·43
57	Stone, lithographic	Sh. T.	*Nil.*	*Nil.*	*Nil.*	*Nil.*	112	102	n2,240	n21·96
58	Strontium sulphate	Sh. T.	40	36	200	n5·55	2	2	10	n5·55
59	Sulphur	L. T.	1,690	1,717	34,814	m20·28	2,726	2,770	59,754	m21·57
60	Sulphuric acid. f. l	Sh. T.	42,352	38,421	699,655	m18·21	47,558	43,144	970,183	m22·49
61	Talc, common	Sh. T.	10,164	9,221	90,908	9·86	9,112	8,266	78,645	9 51
62	Talc, fibrous	Sh. T.	52,836	47,933	283,685	5·92	54,807	49,721	285,759	5·75
63	Tungsten ore	L. T.	(b)	(b)	(b)	(b)	78·865	80·13	17,398	217·12
64	Uranium ore	Sh. T.	17	15	9,010	600·67	33	30	16,500	550·00
65	Wulfenite	Sh. T.	*Nil.*	*Nil.*	*Nil.*	*N.l.*	12	11	144	13·09
66	Zinc sulphate	Sh. T.	*Nil.*	*Nil.*	*Nil.*	*Nil.*	145	132	4,640	35·15
67	Zinc ore, exported	Sh. T.	9,251	8,393	211,350	25·18	11,782	10,688	299,870	28·06
68	Zinc white. s	Sh. T.	26,262	23,825	1,686,020	70·77	32,747	29,708	2,226,796	74·96
69	Est. prod. unspecified				5,000,000				5,000,000	
	Totals				407,913,912				433,659,141	

Metals and Alloys.

Aluminum.—The production of aluminum in the United States in 1898 was 5,200,000 pounds ($1,690,000), against 4,000,000 ($1,400,000) in 1897. The increase in the prices of copper and spelter enabled aluminum to be substituted for those metals for many purposes.

Antimony.—The production of metallic antimony in 1898 was 2,000,000 pounds ($165,000), against 1,500,000 ($107,250) in 1897.

Copper.—The production increased from 223,825 long tons in 1897 to 239,241 in 1898. The increase occurred chiefly in Arizona and Michigan, Montana showing a decrease, owing chiefly to the smaller output of the Anaconda Mine.

Ferromanganese.—The production of ferromanganese and spiegeleisen, chiefly the former, in 1898 was 213,769 long tons, against 173,695 in 1897.

Ferromolybdenum.—There was a production in 1898 of 2,100 pounds, valued nominally at 50 cents per pound. This substance was reported for the first time in 1898.

Gold and Silver.—The domestic production of gold in 1898 was 3,148,642 troy ounces ($65,082,430), against 2,864,576 ($59,210,786) in 1897. The production of silver was 58,763,127 ounces, against 56,457,292 in the previous year. The largest part of the increase of gold came from Colorado, while Arizona, Idaho, Montana, South Dakota and Utah made important increases. Arizona, Colorado and Utah made increased outputs of silver, while in Montana there was a large falling off and in Utah a small one. Beside the production above reported, 1,065,552 ounces of gold and 39,784,000 ounces of silver were smelted in the United States from imported ores. The average value of silver in 1898 was 59 cents per ounce, against 60.354 cents in 1897.

Iron.—The production of pig iron in 1898, exclusive of spiegeleisen

and ferromanganese, was 11,560,165 long tons, against 9,478,985 in 1897. Of the production in 1898, 7,337,384 tons were Bessemer pig, against 5,795,584 in the previous year. Basic pig increased from 556,391 to 785,444 tons. The remainder of the output is classed as foundry and forge iron. The increase in the make of pig iron was caused by the general prosperity in nearly all branches of industry which require iron and steel.

Lead.—The domestic production in 1898 was 228,475 short tons, against 197,718 in the previous year. The more part of the increase was due to Colorado and Utah. There was a small increase in the production of Missouri and a small decrease in that of the Coeur d'Alene. The output of Montana fell off about 2,000 tons. Besides the above, American smelters in 1898 recovered 89,209 tons of lead from foreign ore and base bullion. The average price of lead at New York was 3.78 cents per pound, against 3.58 cents in the previous year.

Molybdenum.—This metal was produced in the United States in 1898 for the first time, to the amount of 9,550 pounds, worth about $1.25 per pound.

Nickel.—The domestic production of nickel was 11,145 pounds, all from Missouri, against 33,700 in 1897. American refiners, however, produced in 1898, from both domestic and imported ores, 7,138,929 pounds. The average value of nickel at New York in 1898 was 34.5 cents per pound, against 34.62 cents in 1897.

Platinum.—The production in 1898 was 300 troy ounces, against 200 in 1897. The average value of bar platinum at New York was $12.34 in 1897, against $12.79 in 1898. A production of 20.25 ounces of iridium was reported in 1897. In 1898 8.5 ounces was produced, in addition to which the New York Assay Office sold 290.64 ounces, this being an accumulation since 1884.

PRODUCTION OF METALS IN THE UNITED STATES.

Number.	Products.	Customary Measures.	1897. Quantity. Customary Measures.	1897. Quantity. Metric Tons.	1897. Value at Place of Production. a. Totals.	1897. Value at Place of Production. a. Per M. Ton.	1898. Quantity. Customary Measures.	1898. Quantity. Metric Tons.	1898. Value at Place of Production. a. Totals.	1898. Value at Place of Production. a. Per M. Ton.
					$	$			$	$
70	Aluminum	Lb.	4,000,000	k1,814,388	m1,400,000	k0·77	5,200,000	k2,358,705	m1,690,000	k0·72
71	Antimony	Lb.	1,500,000	680	107,250	157·72	2,000,000	907	165,000	181·92
72	Copper	Lb.	501,370,295	227,420	t55,351,281	243·40	535,900,232	243,068	t63,129,047	259·70
73	Ferromang'nese. u	L. T.	173,695	176,474	v7,989,970	45·28	213,769	217,189	v10,474,681	48·23
74	Ferromolybden'm	Lb.	*Nil.*	*Nil.*	*Nil.*	.....	2,100	.....	1,050	1,102·30
75	Gold	wOz.	2,864,576	k 89,092·4	59,210,786	k664·60	3,148,642	k97,933	65,082,430	k664·60
76	Iron, pig	L. T.	9,478,985	9,630,649	v91,009,633	9·45	11,560,165	11,745,128	v110,168,372	9·38
77	Iridium	wOz.	20·25	.....	606	.....	8·5	.....	255	.....
78	Lead	Sh. T.	197,718	179,389	m14,156,609	78·93	228,475	207,271	m17,272,710	83·33
79	Molybdenum	Lb.	*Nil.*	*Nil.*	*Nil.*	.....	9,550	k4,332	11,937	k2·76
80	Nickel	Lb.	33,700	k15,286·2	m11,667	k0·76	11,145	k5,055·3	m3,845	k0·76
81	Platinum	wOz.	200	k 6·2	2,468	396·78	300	k9·3	3,837	k411·25
82	Quicksilver x	Fl'sks	26,079	905	910,418	1,005·98	30,493	1,058	1,109,945	1,049·09
83	Silver	Oz.	56,457,292	k1,756,004·0	33,755,815	mk19·22	58,763,127	k1,827,723	34,670,345	mk18.97
84	Tungsten	Lb.	*Nil.*	*Nil.*	*Nil.*	.....	33,200	k15,059	43,160	k2·87
85	Zinc	Sh. T.	100,387	91,070	8,271,889	m90·83	114,104	103,514	10,429,106	m100·75
	Totals	.....	.....	.....	272,178,392	.....	.....	.....	314,255,620	.....

SECONDARY MINERAL AND CHEMICAL PRODUCTS OF THE UNITED STATES.

Number.	Products.	Customary Measures.	1897. Quantity. Customary Measures.	1897. Quantity. Metric Tons.	1897. Value at Place of Production. a. Totals.	1897. Value at Place of Production. a. Per M. Ton.	1898. Quantity. Customary Measures.	1898. Quantity. Metric Tons.	1898. Value at Place of Production. a. Totals.	1898. Value at Place of Production. a. Per M. Ton.
					$	$			$	$
86	Alum	Sh. T.	15,456	14,022	463,680	m33·06	18,791	17,047	563,730	m33·07
87	Aluminum sulphate	Sh. T.	46,355	42,053	1,158,875	m27·56	56,663	51,404	1,416,675	m27·56
88	Ammonium sulphate	Sh. T.	3,111	2,822	136,884	m48·51	3,589	3,256	179,450	m55·11
89	Calcium carbide	Sh. T.	1,925	1,746	134,750	77·18	(b)	(b)	(b)	(b)
90	Carborundum	Lb.	1,242,929	564	153,812	272·72	1,594,152	723	151,444	209·47
91	Cement, slag	hBbls	40,000	7,258	60,000	8·27	157,662	28,606	235,721	8·24
92	Coke	Sh. T.	12,768,891	11,583,862	23,303,920	2·00	15,897,797	14,422,387	30,505,563	2·12
93	Copperas	Sh. T.	15,702	14,245	78,660	5·52	11,285	10,238	58,105	5·68
94	Copper sulphate	Lb.	29,397,575	13,335	1,134,746	m85·10	27,057,860	12,273	922,673	m75·18
95	Crushed steel	Sh. T.	324	294	51,824	176·27	330	299	46,200	154·52
96	Graphite, artificial	Lb.	162,382	k73,655	10,149	k0·14	185,647	k84,209	11,603	k0·14
97	Lead, white. z	Sh. T.	105,804	95,988	9,522,360	99·20	93,172	84,525	9,391,738	111·11
98	Lead, red	Sh. T.	7,798	7,074	744,709	105·27	9,160	8,310	916,000	139·59
99	Lead, orange miner'	Sh. T.	477	433	76,320	176·26	541	491	108,200	220·37
100	Litharge	Sh. T.	8,591	7,794	773,190	99·20	7,460	6,768	710,192	104·93
101	Mineral wool	Sh. T.	5,617	5,096	61,494	12·07	6,560	5,951	70,314	11·82
102	Soda, manufact'ed. r	M. T.	.....	277,072	3,912,257	14·12	.....	340,622	4,080,651	11·98
103	Venetian red	Sh. T.	2,196	1,996	40,790	20·48	3,270	2,967	64,570	21·76
	Totals	.....	.....	.....	41,718,420	.....	.....	.....	49,432,829	.....

METALS PRODUCED FROM FOREIGN ORES AND BULLION. (*aa*)

Metals.	Customary Measure.	1897. Quantities. Customary Measure.	1897. Quantities. Kgm.	1897. Values.	1898. Quantities. Customary Measure.	1898. Quantities. Kgm.	1898. Values.
Copper	Pounds	26,938,254	12,219,112	$2,973,983	86,055,352	16,354,600	$4,247,330
Gold	Troy ozs.	584,983	18,195	12,091,599	1,065,552	33,142	22,024,960
Lead	Short tons	92,117	83,568,000	6,595,577	89,209	80,929,874	6,744,200
Nickel	Pounds	4,099,390	1,859,000	1,419,209	7,127,784	3,233,142	2,459,085
Silver	Troy ozs.	40,218,776	1,250,934	24,046,806	39,784,000	1,237,560	23,472,560
Total values	.....	.....	.....	$47,127,174	.....	.....	$58,948,125

In using the statistics in the foregoing tables reference should also be made to the detailed tables under the respective captions further on in this volume, where many explanatory notes as to the statistics will be found. The following notes refer to the four preceding tables: (*a*) Except where otherwise specified. (*b*) Not enumerated. (*c*) Amount or value of crude mineral. (*d*) Partly estimated. (*e*) Estimated. (*f*) Amount recovered as a by-product. (*g*) Barrels of 300 lb. (*h*) Barrels of 400 lb. (*i*) Includes manganiferous iron ore; this is not duplicated in the report of iron ore. (*j*) Value per square, *i.e.*, 100 sq. ft., lapped and laid; the weights are calculated on the basis, 3 squares = 2,000 lb., but these figures are only approximately correct. (*k*) Kilograms or per kilogram. (*l*) Reduced to a basis of 66° B. (*m*) Average market price at New York. (*n*) Nominal. (*o*) Value before grinding. (*p*) Includes ocher, umber, sienna, and oxide of iron. (*q*) Includes salt used for the manufacture of alkali; the barrel of salt weighs 280 lb. (*r*) Reduced to a basis of 58% ash. (*s*) Includes a small amount made from spelter. (*t*) Average value of Lake copper at New York, less 0·25c. per lb. (*u*) Includes spiegeleisen, though the total value is reckoned as if the whole product were ferromanganese. (*v*) Average market price at Pittsburg. (*w*) Troy oz. (*x*) Flasks of 76·5 lb. (*y*) Barrels of 42 gal. (*z*) Includes a comparatively small amount made directly from ores. (*aa*) Not included in the preceding tables.
Abbreviations; Sh. T., short tons (2,000 lb.); L. T., long tons (2,240 lb.); M. T., metric tons (2,204·6 lb).

Quicksilver.—The production in 1898 was 30,493 flasks ($1,109,945), against 26,079 ($910,418) in 1897, chiefly from California each year.

Tungsten.—There was a production in 1898 of 33,200 pounds of metallic tungsten, valued nominally at $1.30 per pound. Three concerns produced ferrotungsten, but statistics as to this product were not available.

Zinc.—The production in 1898 was 114,104 short tons, against 100,387 in 1897. The production of New Jersey and Virginia fell off from 9,900 tons to 7,805. The remainder of the output each year, with the exception of a few hundred tons of ore mined in Tennessee, was smelted from ores mined in southwest Missouri and southeast Kansas. The average price of western spelter in New York in 1898 was 4.57 cents per pound, against 4.12 cents in 1897.

Ores, Minerals and Chemical Products.

Alum and Aluminum Sulphate.—The production of crystallized alum in the United States in 1898 was 18,791 short tons ($563,730), against 15,456 ($463,680) in 1897. The production of aluminum sulphate in 1898 was 56,663 short tons ($1,416,675), against 46,355 ($1,158,875) in 1897.

Ammonium Sulphate.—The amount of ammonium sulphate recovered by coke works in 1898 was 3,589 short tons, against 3,111 in 1897. A larger amount of this substance is obtained from the ammoniacal liquor of illuminating gas works, but there are no statistics as to that production. The value of sulphate, basis 25 per cent., was $50 per short ton at New York in 1898, against $44 in 1897.

Asbestos.—The domestic production was 885 short tons ($13,425) in 1898, against 840 short tons ($12,950) in 1897. In each year the production was made almost entirely by one mine in Georgia.

Asphaltum and Asphaltum Products.—The production of asphaltum, liquid and solid, in 1898 was 25,690 short tons ($482,175), against 27,397 ($486,620) in 1897, the entire output each year having been made in California. California and Kentucky, chiefly the former, produced 49,536 short tons ($146,275) of bituminous rock in 1898, against 47,470 ($136,173) in 1897. Utah and the Indian Territory produced 14,099 short tons ($70,495) of asphaltic limestone, against 2,390 ($11,450) in 1897. The output of Utah decreased in 1898 and that of the Indian Territory increased immensely. The production of grahamite or gilsonite in 1898 was 2,675 short tons, against 1,756 in 1897, the product each year being valued nominally at $30 per ton at the mines. Colorado produced 115 tons in 1898, the remainder being derived from Utah.

Barytes.—The production in 1898 was 28,247 short tons ($112,988), against 26,430 ($105,720) in 1897. Of the production in 1898 Missouri furnished 14,968 tons, the remainder being obtained in Virginia and North Carolina.

Bauxite.—The production in 1898 was 26,791 long tons ($66,978), against 20,590 ($51,475) in 1897. Of the production in 1898 Alabama furnished 13,848 tons, the remainder being mined in Georgia.

Borate of Calcium.—The production in 1898 was 15,335 short tons, against 19,400 in 1897. Most of this product is Colemanite, mined in California.

Bromine.—The production in 1898 was 486,978 pounds ($136,354), against 487,149 ($136,402) in 1897. Of the production in 1898 liquid bromine constituted 356,978 pounds, against 356,949 in 1897, the remainder of the output being the bromine equivalent of potassium bromine produced in Michigan.

Calcium Carbide.—The production in 1897 was 1,925 short tons ($134,-

750). It was probably larger in 1898, but statistics could not be obtained.

Carborundum.—The production reported by the sole producer was 1,594,152 pounds ($151,444) in 1898, against 1,242,929 ($153,812) in 1897. The decline in value was due to the increased proportion of the cheaper grades marketed.

Cement.—The total production of Portland cement in 1898 was 3,584,586 barrels of 400 pounds, valued at $6,168,106, against 2,430,903 ($3,724,905) in 1897. The largest part of the increase was due to the Lehigh district of Pennsylvania and New Jersey, but New York, Ohio and other states also showed important gains. There was remarkable prosperity in this industry on account of the increased demand and higher prices. The production of natural rock cement in 1898 was 8,161,078 barrels, of 300 pounds, valued at $3,819,995, against 7,890,573 ($3,976,050) in 1897. The increase in the production of natural rock cement was due chiefly to the Indiana-Kentucky district, where the remarkably low prices brought about by excessive competition among the producers undoubtedly stimulated consumption. Many other parts of the United States showed a falling off, owing to the growing tendency to substitute Portland cement for natural rock. The production of slag cement in 1898 was 157,662 barrels of 400 pounds, valued at $235,721, against 40,000 barrels ($60,000) in 1897.

Chrome Ore.—The production in 1898 was 100 long tons ($1,000) against 150 ($1,550) in the previous year. Chrome mining in California ceased in 1898 and the entire output was derived from Pennsylvania and Maryland.

Clay.—The value of brick and other clay products made in the United States in 1898 was $58,470,543, against $56,487,527 in the previous year.

Coal and Coke.—The total production of coal in the United States in 1898 was 218,106,519 short tons ($209,999,991), against 200,857,211 ($206,024,234) in 1897. The production of anthracite, all of it from Pennsylvania with the exception of an insignificant amount from Colorado, was 52,848,605 short tons ($81,445,937) in 1898, against 52,645,133 ($85,857,717) in 1897. Kentucky produced 49,889 short tons ($134,700) of cannel coal, against 56,511 ($153,145) in 1897. The remainder of the output each year was bituminous coal, of which Pennsylvania and the Central States are the largest producers, their relative rank in 1898 having been Pennsylvania, Illinois, West Virginia and Ohio in the order named. There was an increase in the output of most of the important coal-producing States in 1898, Illinois and Iowa being the only important ones which showed a decrease. The total production of coke in 1898 was 15,897,797 short tons ($30,505,563), against 12,768,891 ($23,203,920). Pennsylvania furnished about two-thirds of the output each year.

Coal Tar.—By-product coke oven plants turned out 16,021 short tons in 1898, against 13,304 in 1897. There are no statistics as to the large production of this substance by illuminating gas works.

Cobalt Oxide.—The production of cobalt oxide in 1898 was 9,640 pounds, against 19,300 in 1897. The value was the same each year, namely $1.60 per pound.

Copperas.—The production in 1898 was 11,285 short tons ($58,105), against 15,702 ($78,660) in 1897. The decrease was due to discontinuance of this manufacture by two important producers. The chief feature of the year in this industry was the organization of the American Steel & Wire Company, which controls all the wire and rod mills recovering copperas as a by-product. The above statistics do not include copperas converted into Venetian and Indian reds at the works of original production.

Copper Sulphate.—The production in 1898 was 55,119,361 pounds, against 46,128,822 in 1897. The amount recovered as a by-product, chiefly by gold and silver refiners, was 28,061,501 pounds in 1898 and 16,731,247 in 1897. The remainder of the output each year was made from metallic copper previously reported in the production of that metal. The average value of copper sulphate at New York per 100 pounds was $3.41 in 1898, against $3.86 in 1897.

Corundum and Emery.—The production of corundum in 1898, all of it from North Carolina and Georgia, was 786 short tons ($63,630), against 293 ($19,810) in 1897. The production of emery, most of it from Massachusetts, was 2,956 short tons ($143,800), against 1,900 ($92,000) in 1897. The resources of the United States in both corundum and emery of the highest quality are large and an increasing production is to be looked for. The production of steel emery or crushed steel in 1898 was 660,000 pounds ($46,200), against 647,800 ($51,824) in 1897, the entire make each year being supplied by the Pittsburg Crushed Steel Company.

Feldspar.—The production in 1898 was 21,350 long tons ($107,147), against 21,901 ($111,392) in 1897, Pennsylvania being the chief producer each year.

Fluorspar.—The production in 1898 was 12,145 short tons ($86,985), against 4,739 ($36,264) in 1897, Illinois and Kentucky furnishing the entire output.

Fuller's Earth.—The output in 1898 was 15,553 short tons ($87,365), against 17,195 ($92,398). The most part each year was dug in the vicinity of Quincy, Fla. The new deposits near Ocala, Fla., did not become productive.

Garnet.—The production in 1898 was 2,882 short tons ($82,930), against 2,261 ($66,353) in 1897, the output each year being furnished by New York, Pennsylvania and Connecticut. The domestic resources of this mineral are large, but the demand for it is limited.

Graphite.—The production of crystalline graphite in 1898 was 1,647,679 pounds ($148,291), against 993,138 ($44,691) in 1897. The proportionately large increase in value was due to the increased demand for crucibles for the manufacture of projectiles during the Spanish war. The larger part of the product in 1898 was obtained from Ticonderoga, N. Y., but a considerable quantity was mined in Pennsylvania, where some of the old mines were reopened. The production of amorphous graphite in 1898 was 1,200 tons ($11,400), these figures being unchanged from the previous year. One company produced 185,647 pounds ($11,603) of artificial graphite, against 162,382 ($10,149) in 1897.

Gypsum.—The production increased from 300,369 short tons in 1897 to 348,686 in 1898. These figures represent the amount of crude rock quarried. The more part of the production is marketed as stucco or plaster of paris.

Iron Ore.—The production in 1898 was 20,655,865 long tons, against 18,235,406 in 1897, these figures being exclusive of the production of manganiferous iron ore, reported separately under manganese. The increase in the production was due chiefly to the Lake Superior ranges, the Southern States showing only a comparatively small gain.

Lead White, Red Lead and Litharge.—The production of white lead in 1898 was 93,172 short tons ($9,391,738), against 105,804 ($9,522,360) in 1897; of red lead 9,160 ($916,000), against 7,798 ($744,709); of litharge, 7,460 ($710,192), against 8,591 ($773,190); of orange mineral 541 ($108,200), against 477 ($76,320). The most of these products is obtained by the corrosion of pig lead, but a small part of the white lead product is made directly from ores.

Limestone for Iron Flux.—Iron smelters consumed 5,275,819 long tons in 1898, against 4,247,688 in 1897, the increase being caused by the greater make of pig iron.

Lithographic Stone.—Utah produced 112 short tons in 1898, this substance being reported for the first time in the United States.

Magnesite.—California produced 2,355 short tons ($9,420) in 1898, against 1,907 ($7,628) in the previous year.

Manganese Ore.—The production of manganese ore, including manganiferous iron ore, was 217,782 long tons in 1898, against 158,600 in 1897. Included in these figures is 142,318 tons of manganiferous iron ore from Michigan and Wisconsin in 1898, against 80,261 in 1897, and 47,470 tons of franklinite residuum from New Jersey in 1898, against 50,000 in 1897.

Mica.—The production of sheet mica in 1898 was 109,968 pounds, ($91,432), against 118,852 ($83,298) in 1897. The production of scrap mica was 3,529 short tons ($39,837) against 2,882 ($28,820), the values of scrap mica being reckoned for the product before grinding. Practically the entire production of mica is made in New Hampshire and North Carolina.

Mineral Wool.—The production in 1898 was 6,560 short tons ($70,314), against 5,617 ($61,494) in 1897. A part of this product was made from slag and a part by the fusion of natural rock, the latter being the more valuable.

Molybdenite.—This mineral was produced in the United States in 1898 for the first time, to the amount of 8 short tons, valued nominally at $50 per ton.

Monazite.—North Carolina produced 150,000 pounds ($7,500), against 40,000 ($2,000) in 1897. Notwithstanding the increase, no important future is to be looked for in this industry on account of the vast supplies of cheaper mineral available in Brazil.

Ocher and Oxide of Iron Pigments.—The production of ocher, umber, sienna and natural oxide of iron ground pigment, the last being known commonly as "metallic paint," was 41,950 short tons ($461,450) in 1898, against 42,590 ($468,490) in 1897. The values are reckoned nominally at $11 per ton each year. These products merge into one another so that no satisfactory division of the statistics is possible. Pennsylvania is the largest producer.

Petroleum.—The total output in 1898 was 51,774,465 barrels ($42,100,522), against 57,124,783 ($39,372,111) in 1897. The great falling off was due to New York and Pennsylvania and the Lima field of Ohio and Indiana. West Virginia, California and Texas made increased outputs. The above values are calculated for crude oil at the wells. The average was considerably higher in 1898 than in the previous year.

Phosphate Rock.—The production in 1898 was 1,257,645 long tons ($4,355,025), against 1,007,367 ($3,022,101) in 1897. The increase was due especially to Tennessee and the land rock deposits of South Carolina. Phosphate mining was generally prosperous in 1898 on account of the higher prices.

Salt.—The domestic output of salt increased from 15,822,923 barrels in

1897 to 18,756,394 in 1898, Kansas, Michigan and New York each contributing largely to the increase.

Silica.—The production of vein and dike quartz in 1898 was 35,593 short tons ($73,313), against 28,407 ($55,817) in 1897. This material was used chiefly in pottery, for packing acid towers, and for grinding for various purposes. The production of grindstones, which are made out of quartzite, or a very hard sandstone, amounted to 38,859 short tons ($438,675) in 1898, against 36,502 ($342,186) in 1897. These were produced entirely in Ohio and Michigan. The production of oilstones, scythestones and whetstones in 1898 was valued at $107,990, against $97,229 in 1897. Utah produced 144 short tons of pumice stone, valued nominally at $720, against 1,700 ($8,500) in 1897. There was a production of 1,865 short tons of tripoli, valued at $3,367, against 1,631 ($5,475) in 1897, most of this product being obtained in Missouri. The production of diatomaceous earth in the United States in 1898 was 1,392 short tons ($11,002), against 3,000 ($30,400) in the previous year.

Slate.—The production of roofing slate in 1898 was 1,136,632 squares ($2,958,496), against 932,124 ($2,829,526) in 1897. Both Pennsylvania and Vermont made large increases, but this, together with the fierce competition among the producers, reduced the average price of the product. The production of slate manufactures, chiefly blackboards and structural material, was valued at $528,856 in 1898, against $595,105 in 1897. School slates are not included. The production of slate pigment, including Baraga graphite and various kinds of mineral black, was 7,886 short tons, against 6,857 in the previous year, the values of the products after grinding being respectively $70,671 and $57,863.

Soda.—The production of soda and soda products from salt, reduced to a common basis of 58 per cent. soda ash, was 340,622 metric tons in 1898, against 277,072 in 1897. The average value of 58 per cent. ash at the works was $11.98 per metric ton in 1898, against $14.12 in 1897. California and Nevada produced 7,150 short tons ($94,650) of natural soda, basis 58 per cent. in 1898, against 6,350 short tons ($95,400) in 1897.

Strontium Sulphate.—Ohio produced 2 tons in 1898, against 40 tons in 1897, the mineral being got for experimental purposes only.

Sulphur and Pyrites.—Louisiana, Nevada and Utah produced 2,726 long tons of sulphur in 1898, against 1,690 in 1897. The average price of Sicilian seconds at New York was $21.92 per ton, against $20.60 in the previous year. The domestic production of pyrites in 1898 was 191,160 long tons, worth an average of $3.08 per ton, against 133,368, averaging $3.04 per ton in 1897. Virginia was the largest producer each year, Massachusetts ranking second. Important new mines were opened in 1898 in Virginia, New York and California. Sulphuric acid was recovered as a by-product in roasting blende and pyrites, chiefly the former, to the extent of 47,558 short tons, against 42,352 in 1897, the figures being reduced to a common basis of 66° B. Concentrated acid of the latter strength averaged $20.40 per 2,000 pounds at New York in 1898, against $16.52 in 1897.

Talc and Soapstone.—The production of soapstone for slabs and other manufactured articles in 1898 was 18,862 short tons ($158,635), against 16,904 ($169,040) in 1897. The decrease in value was due to a largely increased production of very low grade stone. The production of common talc, mostly ground to powder, was 9,112 short tons ($78,645), against 10,164 ($90,908) in 1897. This was produced chiefly in North Carolina, Pennsylvania and Vermont. The production of fibrous talc, all of it from St. Lawrence County, N. Y., was 54,807 short tons ($285,759), against 52,836 ($283,685) in 1897.

Tungsten Ore.—There was a production in 1898 of 78,865 long tons of tungsten ore, all of it from South Dakota, Arizona and New Mexico, which was valued nominally at $17,398 at the mines. Connecticut produced about 400 tons of low grade ore, which was held at the mine awaiting dressing.

Uranium Ore.—Colorado produced 33 short tons, valued at $500 per ton, in 1898, against 17 short tons, valued at $530 per ton, in 1897.

Venetian Red.—The production of Venetian and Indian Reds in 1898 was 3,270 short tons ($64,570), against 2,196 ($40,790) in 1897. These figures include only the output at works where the original copperas was made, and do not include any that may have been made by second hands.

Wulfenite.—Arizona shipped 12 short tons of this mineral, valued at $12 per ton, in 1898, but this was probably in part the accumulation of previous years.

Zinc Ore.—The amount of zinc ore of domestic origin exported from the United States in 1898 was 11,782 short tons ($299,870), against 9,251 ($211,350) in the previous year. Most of the ore exported was mined in New Jersey.

Zinc Sulphate.—There was a production in 1898, by one concern, of 145 short tons, valued at $32 per ton, recovered as a by-product from mixed ores.

Zinc White.—The production in 1898 was 32,747 short tons, against 26,262 in 1897. The average value at the works was $68 per ton in 1898 and $64.20 in 1897. Nearly all the American production of zinc white is made directly from ores, most of it from ores mined in New Jersey.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"Syracuse, N. Y.; Fifteenth Annual Report of the Board of Health: 1898." Syracuse, N. Y.; published for the City. Pages, 80; illustrated.

"First Annual Review of the Copper Mining Industry of Lake Superior. 1899." Marquette, Mich.; The "Mining Journal" Company, Limited. Pages, 192; illustrated.

"History of the Rand Mining District, California." By George W. McPherson. Randsburg, Cal.; published by the Rand District Board of Trade. Pamphlet, pages, 46; illustrated.

"Russia. Loi Monetaire du 7th (19th) June, 1899." "Monetary and Coinage Law of June 7th (19th), 1899." St. Petersburg; published by the "Bulletin Russe de Statistique Financiere et de Legislation." Pages, 18.

"Iowa Geological Survey, Volume II. Annual Report 1898, with Accompanying Papers." Samuel Calvin, State Geologist; H. F. Bain, Assistant State Geologist. Des Moines, Iowa; published for the Survey. Pages, 564; with maps and illustrations.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.
Letter should be addressed to the MANAGING EDITOR.
We do not hold ourselves responsible for the opinions expressed by correspondents

The Household Mining Company, Colorado.

Sir—My attention was recently called to a concern called the Household Mining Company, by inquiries received from Boston correspondents concerning the property. It appears that the company has been organized by Boston parties, who are selling—or offering to sell—stock at $2.50 a share. They state that the company owns a mine or claims on Seaton Mountain at Idaho Springs. From a personal investigation I find that there is no such patented property there, as alleged by the parties who are selling the stock, though the section is entirely covered with patented claims. The inevitable conclusions are that the concern is a fake, and that at least intending investors should examine the company's statements very carefully before putting down their money. I hope that this warning may be of service to some of your readers.

C. R.

Idaho Springs, Colo., July 22, 1899.

ABSTRACTS OF OFFICIAL REPORTS.

The Calumet & Hecla Mining Company, Michigan.

The brief report of this company covers the year ending April 30th, 1899. The balance sheet at the close of the year was as follows:

Cash and copper on hand		$5,335,079
Notes and bills receivable		801,238
Insurance fund		353,647
Total assets		$6,489,964
Drafts and bills payable	$446,420	
Machinery contracts	645,000	
Reserve for new work	1,000,000	
		2,091,420
Balance of assets		$4,398,544

The sum of $1,000,000 has been set aside for railroad additions and equipment of amygdaloid lode at mine and mills.

President Agassiz says that during the year the company produced mineral equal to 43,879 tons of refined copper; product in refined copper was 44,450 tons. For the previous year the refined copper product was 45,194 tons. The price of copper has varied from 12c. to 18½c. per pound. It is now 18½ cents. During the past fiscal year there have been paid three dividends of $10 each and one of $40, including $30 from surplus cash.

The openings underground have been pushed vigorously, both in the conglomerate and in the amygdaloid belts. At the south end of the mine the character of the conglomerate lode has materially improved; should the change continue in depth it would greatly lengthen the life of the mine. No. 13 shaft on the Osceola amygdaloid has reached a depth of over 1,000 feet; the two others (14 and 15) have a depth of 900 feet. A new shaft house has been erected at No. 13 shaft. Are now stamping amygdaloid rock with one head, as we are stoping to a very limited extent south of No. 13 shaft. The openings on the amygdaloid belt are now sufficiently advanced to warrant equipping Nos. 13, 14 and 15 shafts with adequate hoisting plants, and to make provision for the corresponding increase in the boiler plant, railroad equipment, stamp mill, sand wheels and pumps. This to be completed by the fall of 1901. The Superior compressor plant has been connected with the general compressed air system, but it still requires some changes to run satisfactorily.

No. 4 Calumet shaft has been equipped with an independent hoisting plant. A new engine house has been built for No. 5 Calumet shaft and the hoisting engines designed for it are erecting, but we can hardly hope to have them in commission before the end of this year.

One pair of the large hoisting engines at the Red Jacket shafts is in commission and hoisting rock from three of the levels which we are opening in connection with this shaft. Should it prove possible to

adopt the system of underground haulage and of hoisting in use at De Beers Mine, Kimberley, there would be no difficulty in hoisting far more than our present rock output from the Red Jacket shaft.

The report says: "In this connection it may be interesting to compare the work we were doing in 1874 with the amount of work performed in 1899. Twenty-five years ago we were hoisting 800 tons a day from an average depth of 800 feet along the slope of our shafts, equal to 400,000 tons raised one foot high. The average for a day in April, 1899, was 5,206 tons raised 3,800 feet along the slope, equivalent to 12,362,250 tons raised one foot high, or thirty times as much work is done in 1899 as in 1874.

"In 1874 we employed 1,616 men. In 1899 we employed 4,706 men. The comparative cost of this work was as 30 to 9."

At the principal Hecla hoisting engine house the conical drums are to be replaced by drums of greater capacity. The company is building an addition to the Calumet Pond boiler house and shall erect an additional pumping engine at that point. At the principal Hecla hoisting engine house it is preparing to replace the conical drums with drums of a greater capacity. The foundations for the second coal dock at Torch Lake are ready for the superstructure. The main cut of the Torch Lake Canal has been dredged to a depth of 21 ft. a length of nearly four miles. It will now need only widening at some points and a system of lighting similar to that on the Government canal through Portage Lake to enable it to pass the largest vessels navigating the Great Lakes to the docks.

The company has built a labor atory at the mills to check our experiments relating to the efficiency of the steam stamps and to the nature of the waste sands. One stamp has been devoted to this work the greater part of the time. It is proposed to erect a duplicate timber mill at the head of Torch Lake and transfer the timber yard and boom there, then send the output daily to the mine, distributing it o he various shafts by rail.

Owing to the high price of copper, the company considerably increased the product since the beginning of the year. It may not be for the interest of the mine to continue this large production for any length of time.

The expenditure on account of the aid fund during the fiscal year amounted to $58,103. In view of the prosperous business the company determined to pay the contributions of the men to the fund during the year. The value of the aid fund at cost is $146,451. The public library for the use of the employees was opened to the public last September, and thus far has been a great success. During the past year the company built 35 houses for the men and two for the officers.

IRON PRODUCTION OF THE UNITED STATES IN 1899.

The American Iron and Steel Association has received from the manufacturers complete statistics of the production of all kinds of pig iron in the United States in the first half of 1899; also complete statistics of the stocks of pig iron which were on hand and for sale on June 30th, 1899. Reports have been received from every furnace in the country. Detailed statistics of both production and stocks will be found on the following page.

The total production of pig iron in the first half of 1899 was 6,289,167 gross tons, against 5,869,703 tons in the first half of 1898 and 5,904,231 tons in the second half. The increased production in the first half of 1899 over the second half of 1898 was 384,936 tons, or over 6 per cent. The production in the first half of 1899 was at the rate of considerably over 1,000,000 tons a month. The production in these six months almost equaled that of the whole of the year 1894, which was 6,657,388 tons. But for the very severe weather of February and March, which seriously interfered with the activity of furnaces that were then in blast and with the blowing in of idle furnaces, the production of pig iron in the first half of 1899 would have been larger than it was.

The production of Bessemer pig iron in the first half of 1899 was 3,788,907 gross tons, against 3,703,584 tons in the first half of 1898 and 3,633,800 tons in the second half. The production of basic pig iron in the first half of 1899, all made with coke or mixed anthracite coal and coke as fuel, was 465,957 gross tons, against 337,485 tons in the first half of 1898 and 447,959 tons in the second half. The production of spiegeleisen and ferromanganese in the first half of 1899 was 104,496 gross tons, against 109,641 tons in the first half of 1898 and 104,128 tons in the second half.

The production of charcoal pig iron in the first half of 1899 was 128,485 gross tons, against 147,003 tons in the first half of 1898 and 149,747 tons in the second half.

The whole number of furnaces in blast on June 30th, 1899, was 240, against 202 on December 31st, 1898. The number out of blast on June 30th was 175, of which several have since been blown in and others are preparing to blow in.

The production of pig iron by States for the half year is shown in the following table:

	First half 1898.	Second half 1898.	First half 1899.
Massachusetts	2,243	2,418	978
Connecticut	3,426	2,418	4,390
New York	114,114	113,897	96,869
New Jersey	54,695	45,986	57,930
Pennsylvania	2,767,549	2,770,283	3,047,998
Maryland	105,684	85,290	101,715
Virginia	126,941	156,333	163,896
Georgia	7,315	6,447	3,397
Alabama	511,848	521,828	517,087
Texas	1,817	3,361	3,643
West Virginia	104,516	88,183	98,138
Kentucky	48,730	51,994	54,020
Tennessee	130,820	132,619	142,137
Ohio	998,951	987,407	1,075,033
Illinois	666,580	699,318	705,623
Michigan	74,848	72,792	65,117
Wisconsin	91,679	81,102	83,357
Missouri and Colorado	58,947	82,063	67,829
Totals	5,869,703	5,904,231	6,289,167

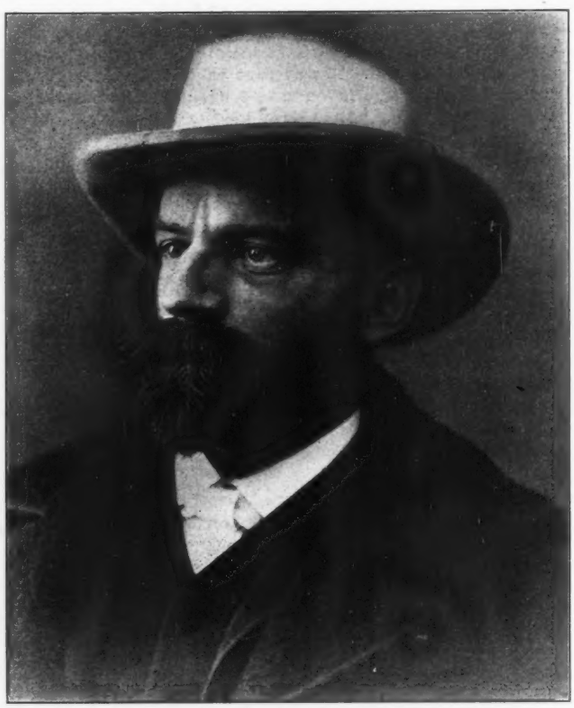
As frequently explained, the association's statistics of stocks of unsold pig iron do not include pig iron sold and not removed from the furnace bank, or pig iron in second hands or in the hands of creditors, or pig iron manufactured by rolling-mill owners for their own use. The stocks which were unsold in the hands of manufacturers or their agents on June 30th, 1899, amounted to 81,220 gross tons, against 571,577 tons on June 30th, 1898, and 291,233 tons on December 31st, 1898.

FREDERICK M. ENDLICH.

Frederick M. Endlich, well known throughout the West as a mining engineer and metallurgist, died suddenly at the Orndorff Hotel in Tucson, Arizona, July 17th. There is too much reason to believe that his death was the result of a pistol shot fired by his own hand, although no reason for suicide was known to exist, except that he had been drinking heavily for a few days.

Dr. Endlich was born in Reading, Pa., June 14th, 1851. In 1857 his father was appointed United States Consul at Basle, in Switzerland, and he spent four years in that city, returning to Reading in 1861. In 1866 young Endlich went to Germany and spent four years there at the Polytechnic Institute in Stuttgart and the University of Tubingen. After a year at home he went to the University of Breslau with the object of studying Silesian mining, and spent some time there and at Freiberg. In November, 1872, he received an appointment as mineralogist, geologist, mine expert and chemist at the Smithsonian Institution in Washington, which he retained until 1880. During this time he spent also much time in the field, making surveys in Colorado, Wyoming and New Mexico.

In 1880 Dr. Endlich was appointed general manager of the Grand View Mine at Rico, Colorado, his first work being to build the smelting works at Rico. For the next 10 years he was employed in opening



FREDERICK M. ENDLICH.

and managing mines, his charges including the Lake Valley and San Pedro mines in New Mexico, the Santa Rita in Arizona, the Grand View and Yankee Boy in Colorado. During this period also he visited Nova Scotia professionally, and made a trip to the West Indies and South America for the United States Government to investigate the artificial coloration of sugar. He opened the San Xavier Mine near Tucson, Arizona, and several mines near Socorro in New Mexico. He designed and built many important mills and reduction works, including the first large leaching mill for the Russell process.

Some years ago, after leaving Colorado about 1893, Dr. Endlich settled in Los Angeles, California, opening an office as a consulting engineer. His work was largely in Southern California and Arizona. He was admirably fitted for a consulting engineer and his thorough knowledge of his work and his varied experience. Dr. Endlich was a man of great and varied attainments, and his disposition was to learn thoroughly whatever he took up. In the course of his work he made the acquaintance of many mining men, who will hear of his untimely death with deep regret.

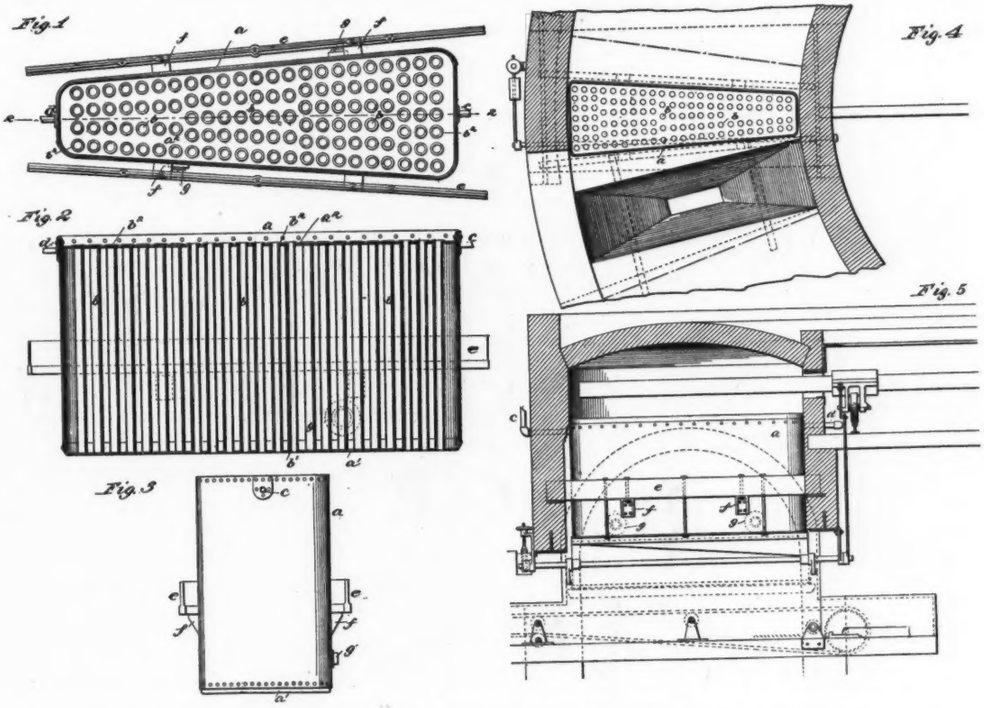
Although his time was fully occupied, he was able to contribute some interesting papers to the "Engineering and Mining Journal" and the proceedings of the American Institute of Mining Engineers. He prepared a number of reports for the Smithsonian Institution. He wrote also the very valuable "Manual of Qualitive Analysis and Determinative Mineralogy," which was published some years ago by the Scientific Publishing Company. It is to be regretted that he had not left more records of his experience.

COOLING ATTACHMENT FOR ORE ROASTING FURNACES.

The accompanying illustrations show an attachment to furnaces which has recently been devised and patented by John E. Rothwell, of Denver, Colo. (United States patent No. 625,608.) The object of this invention is to provide means for cooling the hot ore as it is discharged from roasting, drying, calcining and other furnaces or apparatus on its way from the furnace to a place or apparatus for further treatment, it being desirable to cool the ore in order to facilitate its handling. It has been designed primarily as an attachment for the Pearce turret furnace in order to effect the cooling of the hot ore, so that the roasted ore may be more readily and harmlessly handled in the subsequent treatment thereof.

The invention comprises a casing or shell adapted to contain water or other cooling agent and provided with through-tubes for the passage of the ore through the cooling atmosphere. In the accompanying drawings Fig. 1 is a top plan view of one form of cooling attachment. Fig. 2 is a vertical section taken in the plane of lines 2 2, Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a horizontal section of portion of a Pearce turret-furnace with this invention applied, and Fig. 5 is a vertical section.

As at present planned, the cooling device comprises a casing or shell a, containing transverse or vertical tubes, b, open at both ends, through which the hot ore descends, a stream of flowing water or other cooling agent, preferably under pressure, passing through the casing and about



ROTHWELL'S ORE COOLING ATTACHMENT FOR ROASTING FURNACES.

its tubes and serving to effect the cooling of the ore in its passage through the tubes. In the drawings c is the intake, and d the outflow, for the cooling agent. The tubes, b′, may have their lower ends simply spread in the bottom sheet, a′, of the shell or casing, while this upper ends, b^2, may be spread and headed in the crown or upper sheet, a^2, of the casing. The shape of the device may conform to the hearth of the furnace, that shown being a segment of the hearth of the Pearce turret-furnace.

The attachment may be built into the furnace—as, for example, upon the beams, e e, which are set into the brickwork and from which the attachment is suspended by its brackets, f. Hand-holes for access to the casing for cleaning purposes are shown at g g. The attachment is arranged at the discharge end of the hearth and with its entrance end substantially on a level with the floor of the hearth, and the roasted ore is discharged from the hearth into the attachment by the rakes or stirrers of the furnace, and, falling slowly through the tubes of the attachment, is cooled. The cooled ore may fall thence upon a feeding device, whence it is taken to a conveyor or elevator for further treatment. The flowing water insures a cooling atmosphere or agency in the attachment. The form of the tubes may be varied as preferred.

The cooling attachment may be a section of the hearth in plan, or it may be of other appropriate form to adapt it for economical application to the furnace or apparatus with which it is to be used, and it may be arranged in the hearth of the furnace or apparatus or outside of the same.

In Figs. 4 and 5 the invention is shown as applied to the Pearce turret-furnace, and in these views the parts shown and not described are common in the present construction of that furnace.

MINING IN GREECE.—A company has just been formed at Trieste, Austria, to be known as the Bergwerks-Gesellschaft von Andros to acquire and work the iron and copper ore deposits on the island of Andros, Greece.

BRITISH COLUMBIA.—XX.
WINDERMERE MINING DIVISION, EAST KOOTENAY DISTRICT.

Special Report of W. M. Brewer, Traveling Correspondent.

There are two routes by which the traveler can reach this division in East Kootenay. The first is by the Canadian Pacific to Golden, situated at the confluence of the Columbia and Kicking Horse rivers, thence by stern-wheel steamboat up the Columbia River to Windermere. This town, the chief camp in the division, is situated on the east shore of Windermere Lake near the head waters of the Columbia River. There is also a stage road from Golden to the same point. The second route is by the Canadian Pacific Railway, which has just been constructed through the Crow's Nest Pass. By this route the traveler would leave the railway near Fort Steele on the Kootenay River, and travel by stage up that river, crossing it near the head of the Upper Columbia Lake, and follow the shore of that lake and the Windermere Lake to the town. The town of Windermere is located nearly midway between Golden to the north, and Fort Steele to the south.

The prospects which have already been discovered in this mining division are located in the Rocky Mountains to the east of the Columbia River, or in the Selkirks to the west. The most important discoveries are located on Toby Creek, Little North Fork of Toby, Copper Creek—also a tributary of Toby—Horsethief Creek, Boulder Creek and Jumbo Creek. These are in the Selkirk Range.

In the Rockies the discoveries so far made are located from four to six miles northeast from Windermere. There are several creeks in this section, which have their source in the Selkirk Range, that have, up to date, not been prospected.

While development work has not been sufficiently extensive on any of the mineral claims already located to demonstrate that there are mines in the true acceptance of the term, there are some locations on which the work already performed has demonstrated that the prospects are quite promising and merit thorough exploitation.

The main reason why this mining division has not occupied a more prominent place heretofore is the lack of transportation facilities between the mineral bearing sections and the smelters. At present ore would have to be transported by rawhiding or pack animals to Windermere, or to the Salmon Beds at the foot of Windermere Lake, thence reshipped by steamboat during the summer months, or hauled in wagons or sleighs during the winter months to Golden, and transferred to the railroad for transportation either to the Coast or Trail smelters. It will readily be seen from this statement, that no ore yielding a value of less than $50 per ton could possibly be mined profitably under existing conditions. It is a comparatively short time since the first prospects were discovered and work performed on them.

Eventually there is no doubt that a railroad connection will be made between Windermere and the Crow's Nest Pass branch of the Canadian Pacific, which would render it advisable to smelt the ores near Windermere, hauling coke for that purpose from the Crow's Nest Pass coalfields.

Because of the unusually late spring this year, prospecting in this division had hardly commenced when the writer made a trip to examine some of the properties in the vicinity of Windermere during the early part of June. Usually the snow had sufficiently melted by the middle of May for prospectors to start out, and it is often possible for them to remain in the mountains until late in October. Of course development work can be carried on, provided winter camps are estab-

lished, during the entire year at no greater disadvantage than is experienced in the Slocan and West Kootenay districts.

The geological formation in the Rockies, in the vicinity of Windermere, is Cretaceous and Silurian. The country rock is limestone, with Weisner quartzite, and considerable chert. Along the banks of the Columbia River the formation for the most part apparently belongs to the Cretaceous period.

So far as the writer's observation extended, in the Selkirk Range most of the geological formation there apparently also belongs to the Silurian, and is made up principally of conglomerates, shales and limestones. Occasionally dikes of igneous rocks occur as intrusions, and when that is the case the rocks near the contact have become more or less metamorphosed.

The ore-bodies in the Rockies near Windermere do not, so far as the writer's observation went, occur in regular veins, or even with one regular wall, but as pockets and masses of copper carbonates in a silicious limestone. While there is evidence of considerable faulting, yet the ore-bodies do not appear to have been affected by this faulting, for the best ore is found in a crushed zone some distance from the lines of fracture caused by the faulting. It would almost appear, and in some cases the development work warrants the theory, that these ore-bodies were deposited from descending waters and solutions carrying copper, which had been deposited in the past, when other conditions regarding the formation of the country prevailed. The reason for suggesting this theory is that in some underground workings copper carbonates are found with some malachite and azurite extending downward to a depth of about 75 ft., while below that there was no evidence of mineralization. Whether future development work will demonstrate that this theory is tenable or the contrary is a problem necessary to be solved in that portion of the East Kootenays where such conditions prevail. Up to the present time the deepest work done on any of these prospects in the Rockies has been performed on the Swansea group, and there a depth of only 90 ft. has been taken out. Beyond the fact that the surface indications were very promising, but little can be said with regard to the future of this property until drifting and cross-cutting at depth has been done in order to prove whether the theory advanced is a correct one.

The ore which has already been mined from three shafts, one 90 ft. deep and the other two about 75 and 50 ft., respectively, is of fair grade. It is an ideal smelting ore, because it is practically self-fluxing. The surface indications at the Swansea would indicate that the ore occurred in three lenses of considerable extent.

Apparently, the future prosperity of the Windermere Division of East Kootenay depends principally on the results obtained on the prospects located in the Selkirk Range on Toby and the other creeks referred to earlier in this article.

The mineral claim on which the most extensive development work has been done on Toby Creek and its tributaries is the Delphine, which is located on the North Fork, the outcrop being at an altitude of about 1,200 ft. above the level of the creek bottom. The work performed on this mineral claim amounts to about 175 ft. of sinking and drifting, besides several crosscuts made at different points along the line of strike of the ore body. The shaft had been sunk 130 ft., following the ore-body the entire distance. While the vein in which the ore occurs conforms with the country rock, as far as the strike is concerned, yet it cuts the dip of the country at almost right angles. For while the general dip of the country is about 20°, the dip of the ore-body for the first 40 ft. is vertical, and below that depth about 65°. The trend of the country as well as the vein is about 30° west of north.

The ore is galena, and gray copper of quite high grade. The thickness of the body varies from 3 in. to 3 ft.; probably an average, as shown by the underground workings, of 12 in. would be a fair estimate. The country rock is calcareous quartzose. In following the line of strike of the ore-body, it has been determined by the shallow crosscuts that it maintains its continuity for a distance of about 500 ft.

The other prospects on Toby Creek and its tributaries, which the writer was enabled to examine have none of them had sufficient work performed to warrant any opinion being expressed as to their future possibilities. Some of the outcrops are good grade galena, but usually carrying varying percentages of zinc.

On some of the creeks in the Windermere Division copper-gold sulphide ores have been discovered, and on several locations regular assessment work has been done. The entire district, though, is in its infancy, and will require some time for development, because of a lack of transportation facilities.

In many respects it is a prospectors' paradise, because horses can be used for riding and packing, the altitude rarely exceeds 2,500 ft. above the level of the valleys of the creeks, and feed for stock is quite plentiful throughout the entire division.

Fig. 1.

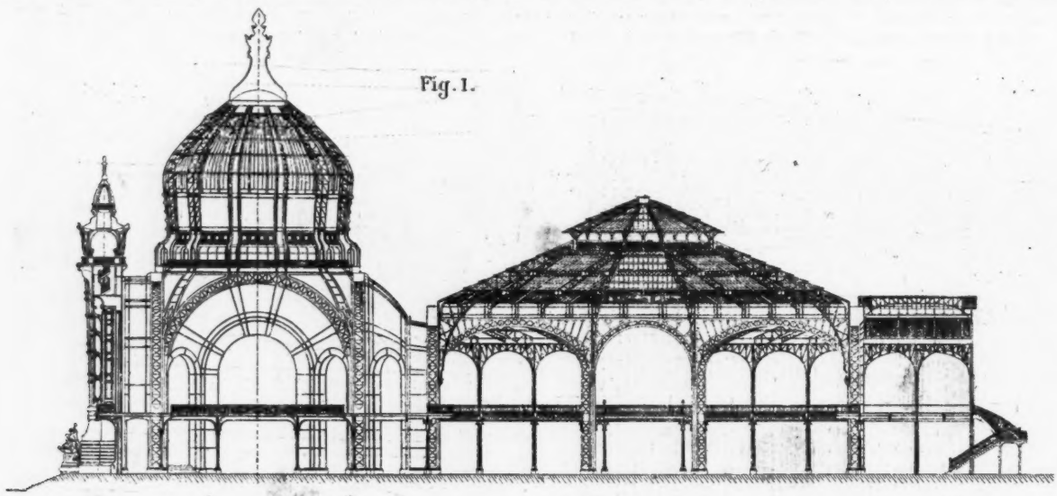
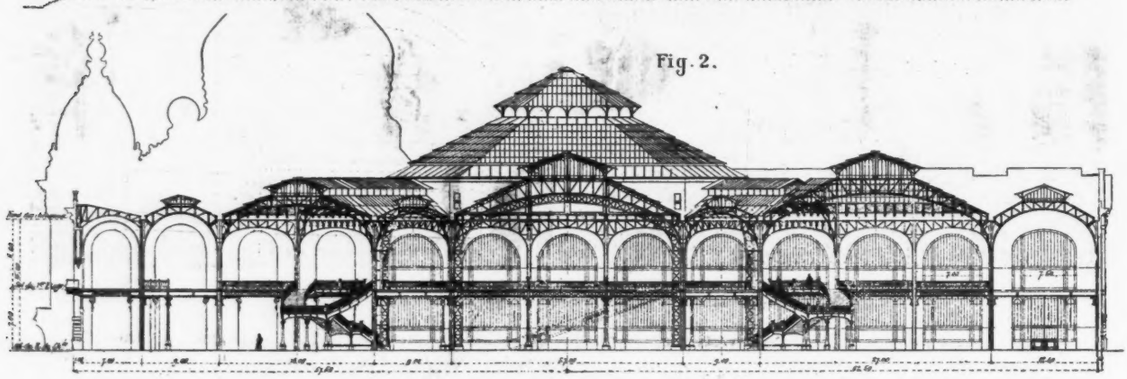


Fig. 2.



MINING AND METALLURGICAL BUILDING AT THE PARIS EXPOSITION.

IRON ORE IN CORNWALL.—According to the London "Iron and Coal Trades Review," arrangements are being made for developing some of the iron ores of Cornwall and Devon, now that the cost of ore is so high as to practically make available ores that could not live in ordinary times. In the parish of Blisland, in Cornwall, there is a considerable deposit of ore, through which a new line of railway has recently been constructed. Explorations for over a mile are said to have been made on this property, with satisfactory results. Trial shafts have proved that the lode of one measures from 4 to 10 ft. in width. The ore is a red hematite, and could, it is computed, be delivered on boats at Wadebridge wharf for about 5s. to 6s. per ton. The ore assays over 50 per cent. of iron, 0.03 per cent. of phosphorus and 0.07 per cent. of sulphur. No iron ore is at present being worked in Cornwall. Another considerable deposit of brown hematite ore is found at Newquay, in Cornwall, where there is a lode about 8 ft. wide. Assays show it to contain 57 per cent. of iron, with 0.61 of phosphoric acid, and 5.35 per cent. of silica. Of course this ore could only be used for the basic process.

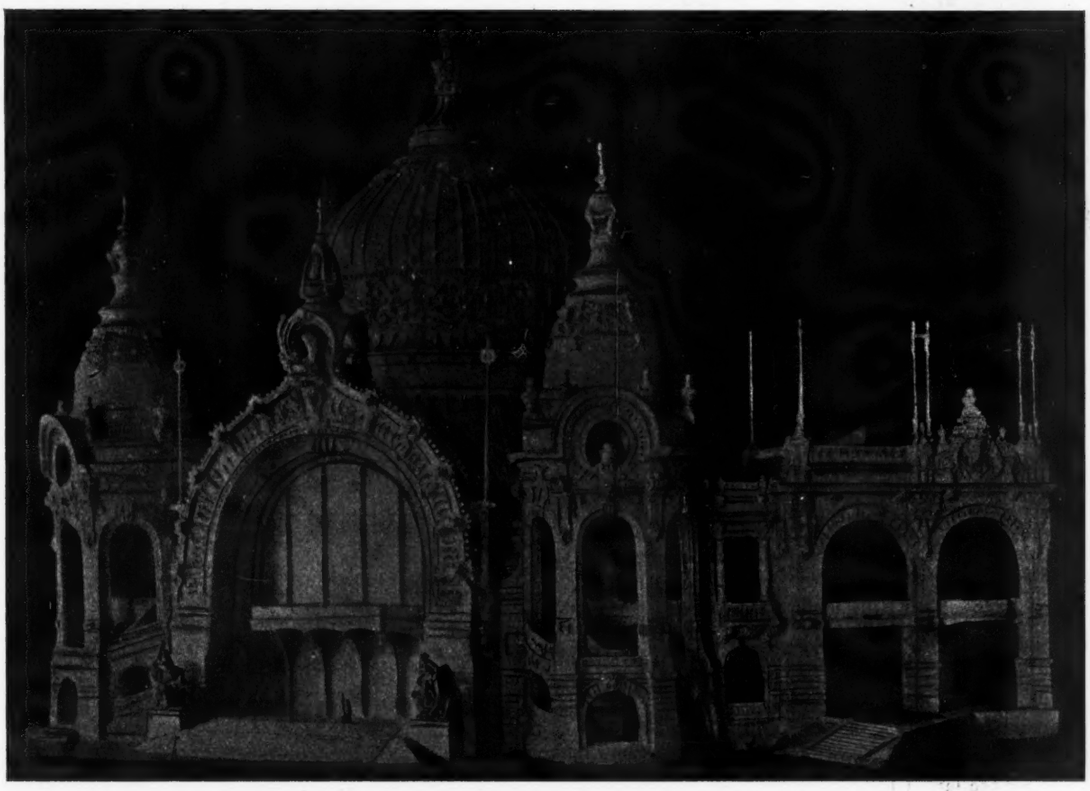
THE MINES BUILDING AT THE PARIS EXPOSITION.

The Mining and Metallurgical Building for the Paris Exposition of 1900 is described and illustrated in an article in the "Genie Civil," of July 1st, from which we take the particulars here given. It is the last in order of the range of buildings bordering on the Avenue de la Bourdonnais, which includes the Electrical, Mechanical and Textile buildings.

In general plan the building is a rectangle 133 by 120 m.; but it was necessary to cut off one corner of the rectangle owing to its proximity to the great tower, 300 m. high. An angle is thus formed, which has been made architecturally the most striking external feature of the building. The total length of the facades is 370 m.

The main entrance is in the angle above referred to, and in this, as noted above, is found the controlling architectural "motif" of the building. The entrance is an arch of 14 m. span, flanked by two decorative towers. The arch will be decorated with the arms of the chief mining centers of France and will be surmounted by a bell-tower. At each side the base is decorated by an allegorical group.

The two small towers which flank the main entrance are surmounted by decorated cupolas. Each tower contains a wide staircase, highly decorated. The main entrance opens on a large vestibule, crowned by a circular dome topped with a decorated lantern.



MINING AND METURGICAL BUILDING FOR THE PARIS EXPOSITION.

The two faces adjoining the entrance are formed by a series of arches of 7.50 m. span. Above the arches is a wide cornice, surmounted by an attic and balustrades. The piers supporting the arches are ornamented with sculptured groups. As the two remaining sides of the building are too close to other buildings to permit a view of them, they are simple in finish, the open spaces in the frame being filled with glass.

In the interior an octagonal hall 45 m. in diameter forms the central point of the design. All the galleries and passages open out of this hall. The general arrangement of the interior is, in fact, very simple. The space on the main floor will be 8,000 square meters. There will also be a series of galleries to which access will be given by five staircases, an elevator and three moving inclines.

The construction of the building is now well advanced.

Fig. 1 is a section of the building through the axis of the dome, while Fig. 2 is a longitudinal section. Fig. 3 is a view (from the architect's model) of the main entrance.

THE COAL SUPPLY OF INDIA.—That section of the Administration Report on the Railways in India for 1898-99, dealing with the coal mines of India, shows that the native coal supply of India was larger in the year covered by the present report than it was in any previous year. The output last year from the various coal mines which have been opened in India reached the total of 4,568,880 tons. The preceding year the output was 4,063,127 tons, while in 1885 the output only reached 1,123,700 tons. All the provinces, with the exception of Burma and the Punjaub, show an increase in the quantity of coal brought to the surface. The increase in Bengal was from 3,142,497 tons to 3,585,900 tons, in the Central Provinces from 131,629 tons to 149,709 tons, in Assam from 185,533 tons to 200,329 tons, in Central India from 124,778 tons to 134,726 tons, in the Nizam's territory from 365,550 tons to 394,622 tons, and in Baluchistan from 8,876 tons to 10,667 tons.

THE UTILIZATION OF COKE OVEN GASES FOR LIGHTING.*

In harmony with the tendency of the age, the mining and smelting industries are devoting considerable attention to the utilization of waste products, and among these the waste gases given off during the operations of iron smelting and the manufacture of coke. In the former case the furnace gases are now to a large extent recovered and used for the generation of power, while coke manufacturers are recognizing the feasibility of employing a portion at least of their excess gas for purposes of illumination. The correctness of this view will be apparent when consideration is bestowed on the phenomena occurring in the coking of coal and influencing the quality of the regulating gas as far as its illumniating power is concerned.

As in the case of gasmaking in retorts, the process of coking coal in coke ovens is one of distillation with exclusion of air; but apart from the difference in size between the two sets of apparatus, there is an important distinction between the operations in so far as it is impossible to keep the walls of coke ovens as gas retorts, and consequently the gas from the former is contaminated with air and combustion products, and therefore inferior in quality to retort gas, even though made from the same kind of coal. The difference makes itself specially apparent in the lighting value of the gas, and therefore the first condition necessary in making illuminating gas in coke ovens is to see that the joints, etc., of the ovens are properly packed so as to be gas-tight. Undoubtedly the mode of carrying on the distillation also exerts some influence on the nature of the products, on the lighting power of the gas; but unfortunately the present state of our knowledge is so defective that no scientific explanation of the processes going on during the distillation of that body is available. Consequently the only guidance we have is that obtained from observation and experience. It is well known that the degree of heat employed, the time occupied by the distillation, the method of charging the ovens with coal, the rapidity with which the gases are carried away by means of the exhaust, the cooling of the upper part of the ovens, and many other conditions all have an influence on the results, although the actual causes of the difference are still in obscurity.

With the idea of preventing secondary decomposition in the products during their pasage through the partly-decomposed coal, attempts have been made to distil the coal in very thin layers, so as to also be able to regulate the temperature of the individual particles of coal in a manner most suitable for attaining the object in view. To carry this out in practice it was proposed to transport the thinly-spread coal through the ovens, but the difficulty of maintaining the transporting appliances in good condition under the high temperature to which they were exposed led to the attempt being abandoned. Moreover, it would seem as though the advantages of distillation in thin layers are not of sufficient magnitude to compensate for the attendant defects, particularly in respect of the imperfect utilization of the contents of the oven. At any rate, gas makers do not regard large-size retorts as any impediment in the way of producing good lighting gases.

The determination made as to the nature of the gas formed at the different stages of coal distillation in gas works are of interest in consid-

*Abstract of article in "Stahl und Eisen."

ering the question at issue. Bunte showed, by a series of analyses of the gases at different periods of the distillation, that the heavy hydrocarbons experience continuous diminution, as also does methane, while the proportion of hydrogen conversely increases. The carbon dioxide was determined separately and found to decrease on the whole, though subject to fluctuations. These results agree practically with the determinations made on coke oven gases and show that there is no fundamental difference between the two or in the working of ovens and retorts. Experiments were recently made with the coke-oven gases from the plant at the Mathias Stinnes Colliery (Ruhr District), the coal from that pit contained 13.5 per cent. of water and 7.5 per cent. of ash. The oven was charged with 6,200 kilos. of dry coal and fired for 32 hours, the resulting output of coke amounting to 73 per cent. of the charge, together with 1½ per cent. of sulphate of ammonia and 4 per cent. of tar. Of the 1.47 per cent. of nitrogen present in the coal, 58 per cent. remained in the coke. The ovens, which are of the Otto type, heated from below without any warming up of the air of combustion, were exposed to a temperature—taken at the channels in the walls—of 1,250° C. underneath, and 1,050° C. at the top.

The average composition of the mixed gas was as follows: Carbon dioxide, 3 per cent.; heavy hydrocarbons, 3.5; carbon monoxide, 7.5; hydrogen, 46; methane, 30; nitrogen, 10 per cent. In point of calorific power the Ruhr coal gas gave, when taken at the end of the second hour, 5,800 calories, gradually decreasing to 2,500 calories at the 32d hour.

A great divergence exists in the amount of gas produced in excess by different coking plants. When the coal is poor in gas, requires a high temperature to ensure its conversion into good coke, and the ovens are badly designed, then the whole of the gas will be wanted for fuel, and there will be none left available for other purposes. Under converse conditions with gassy coal, low coking temperature and well-arranged ovens, however, the excess gas may attain 25 to 30 per cent., or even more, of the total amount produced. Coals containing a high percentage of gas yield a large volume on distillation, but generally furnish a poor grade of coke if treated at a temperature similar to that producing good coke in the case of coking coal, though, if the temperature of the ovens be raised by 200° to 300° C., good coke will be obtained from the former class of coal. This procedure, however, necessitates a large consumption of gas, and therefore leaves a smaller excess of the latter product.

When the choice of coal is limited, the best results (largest excess of gas) will be obtained wherever the heating arrangements are most perfect, and the work is carefully performed, as regards the dryness of the coal and the measurement of the admitted air of combustion. The percentage of water in the coal plays an important part, for though a certain degree of moisture may in some casese be indispensable for the production of a good quality of coke, it is, nevertheless, in all instances antagonistic to the progress of the heating process. Though 15 per cent. of the water in coal would not seem an extraordinary quantity, yet the presence of this percentage means that in a medium size coking plant 45 to 50 cubic meters of water come up for treatment per day, and as the heat required to evaporate such a volume of water is lost, so far as the real work of the ovens is concerned, a reduction in the excess of gas produced is the result. Similarly, damage ensues from the use of too large a volume of air, the gas exerting its maximum effect when no more than the necessary stochiometric quantity of air for its combustion is present; and though this condition is unattainable in practice, endeavors should be made to keep as near as possible to this limit. Every unnecessary unit of air is prejudicial, since it has to be heated to the temperature of combustion, and therefore helps to lower the excess of gas produced. Conversely, a preliminary heating up of the air of combustion helps to raise the output of gas, the saving of gas consumed amounting to about 20 per cent., if the incoming air be warmed to about 700° instead of being admitted cold. Similar results are obtained in the regenerative system where heat is used, not only for the ovens, but also for the large regenerating chambers, and yet, notwithstanding this increased consumption of heat the gas excess is much higher from these ovens, because the warming of the air in the regenerators conduces to an economy of gas.

It has already been stated that the gas obtained during the different stages of coking exhibits considerable divergence in point of lighting power and other properties. As in the case of coke-oven gas, the heavy hydro-carbons diminish as the gasification progresses, the hydrogen meanwhile increasing. The illuminating power does not, however, fall off to the same extent as in coke-oven gas from coking coal, though the difference is sufficiently large to give rise to the idea of practical distillation in gas retorts as well. Moreover, Grahn & Hegener have proposed a method for utilizing the earlier formed gases for lighting while the poorer final portions are reserved for heating the retorts. This method ought to be more particularly valuable where there is a market for the coke. To facilitate the fractional distillation Hegener provides two receivers attached to the gas retorts, both receivers being provided with dipping pipes fitted with release valves, which are closed while the retorts are being filled or discharged. The gas is diverted one way or the other according to the way the dipping pipes are set. As yet, however, the method has not found very extensive application, and in this particular resembles that proposed by W. Siemens for employing fractional distillation in gas making, separating the heating and lighting gases and conveying them through different mains to the consumer.

PETROLEUM IN JAPAN.—The oil produced in the Echigo district, Japan, continues to increase, and some improvements have been made by the introduction of machinery for both pumping and refining the oil. It is reported that some very rich wells have recently been struck, which will largely augment the quantity for sale, but will hardly be sufficient to seriously interfere with the sale of the imported article. Tank wagons have commenced to run on some of the railways for the conveyance of oil in bulk, and storage tanks have been erected at Hiroshima, Okayama, Osaka, Kyoto and Nagoya, in or near the railway compounds, for the reception of the oil; and further installations are in course of preparation.

TESTING AND SAMPLING PLACER DEPOSITS.*

By Edmund B. Kirby.

In gravel deposits in channels or gulches, the pay lead or bedrock channel is usually of limited width, and meanders along the gulch, marking in general the course and width of the stream at the time. There may be two or more of these channels, and they are not necessarily in the deepest part of the gulch. They may be found higher up, along its sides, as portions of earlier channels, made before the bedrock of the gulch was cut down to its present depth. In such a channel the distribution of gold is very irregular, but, on the whole, it seems to follow the rule so often observed, and is heaviest on the inner sides of bends. It is usually necessary to work the channel by a pit or open cut. It is a rare occurrence to find that the general mass of gravel filling the gulch will average enough for pay. The slope required for the sides of the excavation increases the proportion of this poor gravel, so that the pay lead must be rich enough to bring up the average to the pay point.

A determination of the average value of gravel is only one of the numerous questions, both business and technical, which arise in a placer examination. It is often unnecessary, because the business decision to be made may be settled by other considerations. Moreover, the books and records of an established placer enterprise will often supply the data necessary to estimate the value of the ground worked. The reliance to be placed upon such evidence is matter for special judgment in each case. Generally, actual tests must be made, and the evidence to be secured may be roughly outlined as follows:

1. General evidence derived from the history, records, facts shown by prior workings and neighboring mines, structure of the deposit, etc., etc.
2. Evidence from sampling gravel already exposed. Such exposures may be found in surface gravel, natural banks and gullies, or prior workings.
3. Evidence from special test workings made for the purpose. These may include shafts down to water level, and such work may be made light or heavy as warranted by the circumstances, and the facts developed during its progress.
4. Evidence from heavy and decisive test workings. In high bars this may merely include a more extensive system of test shafts and drifts in the dry gravel, but in the water bearing bottom gravel, such work is very difficult and expensive. This should not be a serious objection, in view of the heavy investment which will be necessary to open and work a deposit of this character. The very existence of a pay channel, to say nothing of its grade, is uncertain. To risk a large investment on mere chance, without first feeling the way by such preliminary work, is not a course which will appeal to sound business judgment.

On account of the expense of testing gravel it is impossible to cover a large territory. In practice, all that can be done usually is to select the most promising and workable locality and decide the question at issue by the value of this portion. The test workings should be so arranged as to define the shape and limits of the pay ground. In a large area or a thick mass, there is no better system than a number of shafts. A channel may be exposed by a cross-cut drift from a shaft, and a few cross sections of this kind at different points should give a fair idea of what may be expected from it. Bottom gravel may be 500 to 1,500 ft. wide, and the main difficulty at first is to locate the position of the bedrock channel. It will generally be best to secure some evidence on this point before starting a shaft. There is no better way of obtaining this than by a line of drop drill holes which will give an approximate cross profile of the bedrock, and will also give some evidence as to the presence of gold, and the character of the gravel.

The units of measurement used for placer gravel vary according to the shape of the workable ground. In a thick mass it is the cubic yard. In a thin sheet, with the values of the bedrock, it is customary to use a unit of area such as the claim or the acre. For a channel, a unit of length is preferred, giving the yield per 100 or 1,000 ft. of length. The extreme irregularities of the deposit are always to be kept in mind, and figures of measurement (like those of value) are to be used with caution. In averaging the results of tests, each should be given a value proportioned to the volume of gravel which it is supposed to represent.

In practice, gravel for tests is conveniently washed either by the pan, the rocker, or by small sluices.

In pan tests, at each point sampled, a number of pans of gravel are taken at uniform distances apart, down the exposed face of gravel. On account of the variations in the different layers, much judgment is necessary to do this properly. The bank may comprise stones of every size, and only the finer and richer material, filling the interstices between the larger stones, can be taken into the pan. The sample is therefore limited to material less than 3 or 4 in. in diameter. In most beds this pan size gravel ranges from 25 to 60 per cent. of the entire mass. This percentage should be estimated. It is not possible to calculate from it the value of this entire mass, because the larger stones are not barren. Much of the gold adheres to their surfaces, and fine gold seems to have a special tendency to do this. Hence, if a pan test shows 20c. per cubic yard of fine material tested, and this represents only 50 per cent. of the mass, it is not correct to assume that the latter averages only 10c. per yard. The test merely fixes an upper and a lower limit, and the real contents lie somewhere between the two; in this case between 10 and 20c.

Careful hand panning collects fine and scale gold perhaps more closely than any other practical method. It will be found best to wash down to the black sand, which is almost always barren, and then determine the gold by assay. Usually 120 pans are generally called a cubic yard, but the error of measurement in this way is very great. It is better to measure the sample in a small box made for the purpose. The swell of loose gravel above its original bulk in the bank is generally about one-fifth, so that 1 cu. yd. in bank is equivalent to 1.20 cu. yds. in the measuring box. If the gold is not too fine, and many points are to be

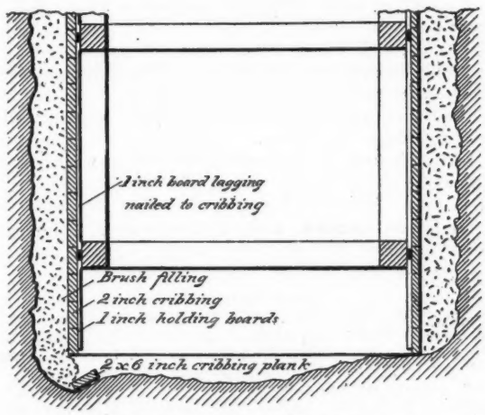
*Abstract of paper read before the Colorado Scientific Society, April, 1899.

sampled, and a large quantity is to be handled from each point, it is better to wash in a rocker instead of in a pan.

On account of the difficulties mentioned the only accurate tests are those in which the excavation of gravel is measured, and the sample taken is so large that it will include all workable sizes of stones standing in the bank. This requires the use of running water in a sluice. The latter may be 12 or 18 in. wide, and, say, 36 to 48 ft. long, with slat riffles arranged for easy removal. It is not necessary to use quicksilver unless the gold is very fine, and the quantity so small that a clean-up is difficult. The gravel from distant sample points may be hauled by wagon to the sluice. For gravel carrying fine gold the writer has used an under-current attached to the sluice, but the additional saving has never exceeded 4½ per cent. of the total gold.

Excavations may be measured by the usual method of cross-sections. When a sample is cut down the face of a gravel bank the writer has found it more convenient and accurate to use an artificial reference plane, made by stretching two wires from top to bottom of the bank. The cross-sections before and after excavation are measured from this plane.

Test Workings in Water-Bearing Gravel.—Drop drill holes are valuable and generally necessary as a preliminary to the expensive work of shafts and drifts. They cannot, however, take the place of such work. Drill holes will furnish a cross-section profile of the bedrock, and thus indicate the most probable location of the channel. They will also show the presence of large stones and boulders in serious quantities, the existence of quicksand layers, etc. If gold is present it will be brought up in the sand pump. A failure to find gold in the sand raised may be evidence decisive enough to stop further operations, but the presence of gold, on the contrary, is not by any means decisive evidence. While drilling, the stones for a greater or less distance around the hole are churned and shaken. The finer and richer material in their interstices works loose and flows into the bottom of the hole, so that the gold brought up by the sand pump is largely derived from this adjacent gravel. Hence, it is impossible to say what volume of gravel has yielded



SHAFT SINKING IN GRAVEL.

the gold recovered, and any figures of value per cubic yard, based upon drill hole results, is pure guesswork. Nothing could be more dangerous than to base a heavy investment upon such data.

The cost of drill holes in unknown gravel cannot be estimated closely. In favorable gravel, drilling is very rapid and cheap, but an abundance of large stones may make the work expensive, and cause the loss of many holes. The money thus spent, however, may accomplish its purpose in showing that the gravel bed is of such a character that it cannot be mined at a reasonable expense. Under average Western conditions, the total contract cost of such work will generally range from $3 to $6 per foot of hole.

In these deposits there is no way to ascertain the structure of the pay gravel and its approximate contents, except by shafts and drifts. The depth of gravel does not usually exceed 40 to 70 ft. and much sand and small gravel must be raised with the water. A vertical centrifugal pump is therefore the best means of handling the flow. In one typical instance of quite open gravel, the flow reached a maximum of about 1,800 gals. per minute, while sinking a 50-ft. shaft. A few weeks of steady pumping, however, reduced this to 500 gals. The extension of drifts increases the flow, but long continued draining has a remarkable effect in reducing it. A stream flowing over such a gravel bed seems to pack the interstices of its channel with fine silt, and it does not furnish water to the drained area as rapidly as might be expected.

Steam power will generally be found best, because of the temporary nature of the work, and the ease with which it may be moved from one shaft to another. Water power saves a serious daily expense, but requires a heavier first cost, and cannot be moved. It is also very difficult to adjust turbines to the increased power and speed required by the pump as the depth increases. The usual heavy cost of such work is almost invariably due to stoppages and breakdowns, and the most careful planning is necessary to reduce these to a minimum. The pump and stand pipe are best supported by an independent frame-work which can at any time be lifted out of the shaft. The pump shaft is driven by a quarter-twist belt, governed by an idler pulley which will permit the shaft to be lowered 4 ft. before shifting its pulley.

The two standard methods available for work of this kind are to sink by driving lagging or to sink a caisson. With either method the shaft is apt to become distorted. Both are slow, and a caisson makes it very difficult to arrange the pumping plant. The method of driving lagging does not work well in coarse gravel, or where layers of large stones are present. Hence in most cases the following described plan, shown in the illustration, will be found best.

The gravel along each wall of the shaft is excavated in the form of a small trench, and the space is packed with brush. A tilted cribbing plank, 2 by 6 in., is used to hold the brush in place, and is finally forced into position so as to form a continuation of the outer cribbing. This is held temporarily by a few 1-in. boards, nailed on and braced, as required, until a depth of 4 ft. is gained all around, and another set of regular shaft timbers can be placed. A lagging of 1-in. boards, extending between the two sets, is then nailed on the cribbing. A shaft was sunk in this way by skilled workmen, 47 ft. in 29 shifts of 10 hours each. The water flow was 500 to 800 gals. per minute, but no quicksand and only a few large stones were encountered.

In drifting, it is necessary to use the standard methods, with driven lagging and breast-boards. Usually 2-in. lagging is used overhead and in the corners, and 1-in. boards at the sides and breast. This top lagging will often be found too light for the weight, and its bending causes delay and distortion of the work. In such cases selected 3-in. lumber should be used.

In general it may be said that, excluding stoppages, a shaft may be sunk at the rate of 1½ ft. per 10-hour shift. Drifting should maintain an average of 1¾ ft. per 10-hour shift. The main expense is due to stoppages, the cost of plant and the cost of bringing in skilled workmen for a temporary job.

In work of this kind, the heavy water flow makes it almost impossible to take accurate measurements of samples. Most of the fine sand and gravel will pass out through the centrifugal pump and may be put through the testing sluice. This, as well as the large stones, is apt to drop its gold on being loosened in the shaft bottom. The heavy water flow also washes out all fine gravel from the sides before it can be observed. It is, therefore, necessary to rely mainly upon panning, and judgment during the progress of the work. After the ground has been drained for a while it becomes possible to sample any special layers of gravel.

UNIFORM SIGNALS FOR COLORADO MINES.

Mr. Harry A. Lee, Commissioner of Mines of the State of Colorado, has issued the following notice, under date of July 15th:

In accordance with the provisions of paragraph 9, section 20, of an act relative to the bureau of mines of the State of Colorado, authorizing the commissioner of mines to establish a uniform code of signals in all mines using hoisting machinery, the following code is hereby established, and "shall be securely posted, in clear and legible form, in the engine room, at the collar of the shaft and at each level or station."

Signals.

One Bell.—Hoist. (See Rule 2.)
One Bell.—Stop, if in motion.
Two Bells.—Lower. (See Rule 2.)
Three Bells.—Man on; run slow. (See Rule 2.)
Seven Bells.—Accident; hoist or lower by verbal orders only.
Three-two-one Bells.—Ready to shoot. (See Rule 3.)
Engineer's Signal.—Engineers shall, after signal 3-2-1, raise the bucket or cage 2 feet and lower again, and shall remain at his post until final signal is given and command executed.

Rules Governing Signals.

Rule 1. In giving ordinary signals make strokes on bell at regular intervals. In signals similar to "Ready to shoot" (3-2-1 bells), each bar (—) must take the same time as one stroke of the bell.

2. When men are to be hoisted or lowered give the signal for "Men on; run slow" (3 bells). Men must then get on bucket or cage, then give signal to hoist or lower (1 bell or 2 bells).

3. After signal "Ready to shoot" (3-2-1 bells) engineer must give signal that he is ready to hoist by raising and lowering bucket 2 feet. Miners must then give the signal "Men on" (3 bells), then "spit fuse," get on bucket or cage and give signal to hoist.

4. All timbers, tools, etc., "longer than the depth of bucket," or placed within a cage, must be securely lashed before being hoisted or lowered.

5. Signals to meet local demands and not in conflict with above may be added by individual operators, but the same must be posted in clear and legible form in connection with above code.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

DAMAGES RECOVERABLE FOR TAKING UNDER EMINENT DOMAIN MUST BE ACTUAL.—In proceedings for the assessment of damages for the taking, under eminent domain, property of another for use of public corporation, of a pile of culm on land belonging to a coal company, for use as ballast, the claimant can recover only actual damage, and evidence that the culm had no market value, and was given away by owners to get rid of it was admissible.—Morris & Essex Mutual Coal Company vs. Delaware, Lackawanna & Western Railroad Company (42 Atlantic Reporter, 883); Supreme Court, Pennsylvania.

SPECIFIC PERFORMANCE OF COAL LEASE DECREED BY COURT.—A valid agreement, definite and fair, and reasonable in its terms, was made for the lease of a tract of coal land, to be mined by lessee. The lease would necessarily extend through a number of years. The quantity to be mined each year was uncertain, and payment of royalty was to be made according to a sliding scale, varying from year to year. Owing to a known fault in the vein, but the extent of which was unknown, the total quantity of coal to be mined was very largely a matter of uncertainty. The court held that specific performance of the agreement would be decreed at suit of the lessor, on the ground of the inadequacy of his remedy at law for nonperformance, arising from the impossibility of determining the amount of his damages with any reasonable degree of accuracy.—Oakford vs. Hackley (92 Federal Reporter, 38); Circuit Court of United States.

QUESTIONS AND ANSWERS.

(Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Nor can we undertake to give advice about mining companies or mining stocks. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Dolomite in California.—Are there any deposits of dolomite in California?—F. Y.

Answer.—In reference to this query ("Engineering and Mining Journal," May 10th, 1899, page 594), a correspondent writes that the so-called Inyo marble, found about 5 miles north of Keeler, in Inyo County, California, is really a very pure dolomite. It contains, according to the State Mineralogist ("Tenth Annual Report," page 215), 54.25 per cent. $CaCO_3$; 44.45 per cent. $MgCO_3$; and only 0.60 per cent. iron and silica.

Silicon Copper.—Is silica copper or copper-silicide made in the United States?—M. S. S.

Answer.—An answer to this question was given in the "Engineering and Mining Journal," June 10th, 1899, page 684. The Cowles Electric Smelting and Aluminum Company, Lockport, N. Y., informs us that it makes silicon-copper in the electric furnace. The Cowles Company further claims that it is at present the only maker of pure silicon-copper. The metal made by the Waldo Foundry Company and the John A. Roebling's Sons Company is more properly silicon-bronze, made by adding silicon-copper to pure copper.

Losses in Roasting Zinc Ores.—In Volume II. of "The Mineral Industry," page 665, Mr. W. R. Ingalls says (on line 34) that "Each unit of sulphur combined with zinc in the roasted ore holds back two units of zinc in the retort."

Can you tell me how he arrives at this? It is easy to see how one unit would be lost; but how two? All the information in his article is so accurate and clear I would be glad to know how this is arrived at. —J. W. B.

Answer.—Zinc sulphide consists of zinc 67 per cent. and sulphur 33 per cent., in even numbers, or about 2 parts zinc per part of sulphur. Consequently, if the roasted ore assays 1 per cent. sulphur combined with zinc there must be 2 per cent. of zinc combined with it, or 1 unit of sulphur and 2 of zinc, if it be expressed in that manner. Zinc sulphide may be decomposed in the retort by lime or metallic iron (reduced from ferrous oxide), but it is unsafe to depend on that, and it is customary to reckon that zinc present as sulphide will be lost. It is the same thing with zinc sulphate, which in the retort is reduced to sulphide.

Acid-Resisting Metals.—Who is the highest authority on the subject of metals for resisting acids? Is there any publication devoted to that subject? Are there any parties who manufacture alloys or compound metals for that purpose?—J. C. R.

Answer.—The subject of the resistance of various metals to acids is treated more or less in all the books on metallurgy, and you will find notes on the subject in them and also in many works on chemistry. There is not any special work on the substance in existence, though there should be no difficulty in finding the information. The same answer will cover your second question. There is no such publication as you mention, but notes on the subject appear from time to time in the "Engineering and Mining Journal," and the special chemical papers. There is no special alloy made for the purpose of resisting acids; at least there is none on the market, though nearly all the pump-makers claim to have special compositions which they use for valves, pump linings, etc., when the passages of the pump are likely to be corroded. If you consult the standard works on chemistry and the files of the "Engineering and Mining Journal," you will find practically nearly all that can be said on the point.

Stamp Mill Practice.—What are the heaviest stamps in general use? What is the usual order of drop in stamp when arranged by fives, as I believe is the usual practice?—R. P. J.

Answer.—The weight of stamps in California, where the system of heavy stamps and slow drop was most popular, was gradually increased from the old 500 or 600 lbs. weight up to 800, 900 and in a few cases 1,000 lbs. Lately, however, there has been some reaction from the extreme weight, and at the present time about 850 lbs. is the most usual weight for the best stamp mills. This was the weight adopted for the large new mills which were built last year for the Alaska-Treadwell and Alaska-United mills on Douglas Island. The 850-lb. stamp is also, we believe, being used in the new mills of the Homestake Company in South Dakota.

As to order of drop, there are a great many opinions and a great many differences in practice, and every mill-man has arguments in favor of his own ideas. The most popular and generally adopted is 1-4-2-5-3. At one time the order 1-5-2-4-3 was quite popular, but it is claimed that it tends to scour the block and wear the screens, although many claim that ore can be crushed faster with that arrangement than with any other.

If you will consult T. A. Rickard's "Stamp Milling of Gold Ores" you will find a great deal of interesting information and many comparisons on the points just referred to, as well as others connected with stamp milling.

Barrels of Petroleum.—I notice that petroleum production is generally reported in this country in barrels. Why is this done? What is a barrel of petroleum? Is the measure used in other countries? Would not a more definite statement be preferable?—B. H.

Answer.—1. The use of the term "barrel" in reporting petroleum is one of those trade customs which have grown up, no one can say exactly how. It dates from the early days of the petroleum industry, and has fastened itself on the trade so that it will be apparently hard work to get rid of it.

2. The barrel of petroleum as used in reporting statistics is 42 standard gallons, of 231 cubic inches each. The actual barrel in which oil is shipped varies from 40 to 50 gallons, and is usually nearer 50. In Europe iron barrels are used, holding usually 50 gallons or more. The oil exported to the East—China, India, etc.—is sent usually in "cases," each case holding two tins of 2 gallons each. The barrel of the reports, therefore, is not an actual barrel, but a fictitious or conventional barrel.

3. In England the barrel is used to some extent as a measure, but not universally. In Canada the barrel is used. The Canadian barrel is 35 imperial gallons; as this imperial gallon is 277.27 cubic inches, the barrel contains 9,704.4 cubic inches, and is practically the same as the American standard barrel, which is nominally 9,702 cubic inches. In most European countries petroleum is generally reported in liters; 3.785 liters are equal to 1 United States standard gallon, and a barrel (42 gallons) would therefore be 158.97 liters. The figures of production of the Baku District in Russia are generally given in metric tons. In this country the Bureau of Statistics of the Treasury Department reports all exports of petroleum in gallons.

4. A better measure would be the liter, which we hope will become the legal and official measure when the metric system is definitely adopted in this country—as it ought to be and should be before long. The barrel is one of those trade fictions which encumber so many branches of business, and which are being gradually done away with, as men recognize their cumbersome uselessness.

COAL EXPORTS OF GREAT BRITAIN.—During June the exports of coal, coke, cinders and briquettes from the United Kingdom reached a total of 3,901,804 tons, compared with 2,916,975 tons in June, 1898, and 3,082,214 tons in June, 1897. The quantity of coal exported for the six completed months of the present year was 20,990,630 tons, as against 16,717,793 tons in the first half of 1898, and 17,395,168 tons in the corresponding period of 1897.

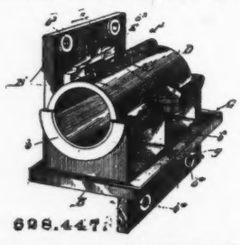
PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company on receipt of 25 cents.

Week Ending July 11th, 1899.

628,447. JOURNAL-BOX FOR STAMP-MILLS. Thomas W. Capen, Chicago, Ill., assignor to the Gates Iron Works, of Illinois. A box provided with an upwardly-extending flange and a semicylindrical bearing, a dust-cap provided with at least two lugs on its inner lateral edge,



628,447.

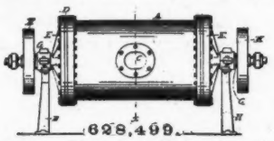
a lug on the upwardly-extending flange of the lower portion of the box arranged above and between the lugs on the cap, and a wedge arranged to be driven between the lugs on the cap and on the box portion to hold the parts together.

628,460. CLOSING DEVICE FOR VESSELS CONTAINING VOLATILE LIQUIDS. Louis Goybet, La Plaine, Switzerland, assignor to La Societe Chimique des Usines du Rhone, anciennement Gilliard, P. Monnet et Cartier, Lyons, France. The combination with a vessel for containing volatile liquids, having a capillary orifice, a tip and a neck, of a cap, having a yielding packing for engaging said tip and closing said orifice, and having elastic portions sliding axially on, and elasticity embracing and frictionally engaging, said neck.

628,492. SECONDARY BATTERY. Charles Ridsdale, Chicago, Ill. An electrode for secondary batteries comprising in its construction a section of oxide of lead formed in a complete integral mass having extensions forming ridges along its side or sides and corresponding recesses also formed by said ridges together with extended chan-

nels through the interior of the said section and a strip of conducting material extended through said section.

628,499. ORE AMALGAMATOR. John E. Sutphen, Albany, N. Y. Tho combination of a rotary cylinder having outer heads provided with hollow trunnions, heat-receptacles formed about the shell and ends



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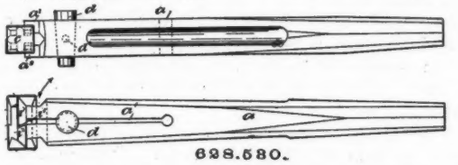
of said cylinder in communication with the openings of said trunnion, and a roller having a smooth outer surface arranged within said cylinder.

628,528. APPARATUS FOR HANDLING METAL BARS. Victor E. Edwards and Paul B. Morgan, Worcester, Mass., assignors to the Morgan Construction Company, same place. An elevated straightening mechanism and an elevated inclined section of a cooling-bed in combination with a series of pockets and conveying mechanism located beneath said inclined section of the cooling-bed and forming the second section of the cooling apparatus.

628,530. ROCK-DRILL AND ROCK-DRILL BIT, ETC. Alfred Gozzard, Sheffield, England, assignor to Richard Nicholson and Robert James Nicholson, same place. A cutter comprising a central cutting edge,



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transversely-extending portions at each end of the central edge, said portions having thereon cutting edges and having also dovetailed abutments adjacent to said cutting edges and forming recesses larger at their inner ends whereby the transverse portions provide the cutting and holding means.

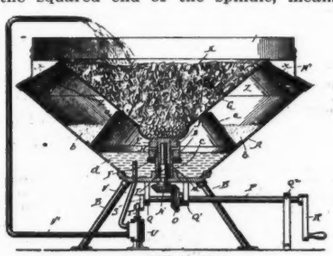
628,592. DERRICK. Edward F. Terry, New York, N. Y. In combination, a tripod-mast the legs of which are, at the apex, pivotally connected together, and a base in the form of the letter T, the rearwardly-extending portion of which is pivotally connected to the front portion.

628,639. CARBURETER. Wilbur F. Steele, Asbury Park, N. J. The combination, with a carbureter, a trap below the level of the same, a pipe for conveying oil from the trap to the carbureter, and a waste-pipe connecting the carbureter and trap and extending below the level of the outlet of the latter, of a supply-tank located above the level of the trap and connected therewith but having no direct connection, normally, with the carbureter, except through the trap, and means for forcing oil from the trap through the outlet-pipe.

628,667. BATTERY-ELECTRODE. John C. Howell, London, England, assignor to the Porous Accumulator Company, Limited, same place. A battery-electrode comprising a metallic ribbon in the form of a helix with each turn in the form of a cone and partially covering the next preceding turn.

628,676. FORMING ACCUMULATORS. Charles Pollack, Frankfort-on-the-Main, Germany. The process of forming lead electrodes in accumulators, consisting in first treating them as anodes in electrolytical elements with a current having a tension which does not exceed two volts per element, thereby producing a covering of lower oxide of lead, and then completing the formation by the use of a current having an electromotive force in excess of two volts.

628,697. CONCENTRATING AND AMALGAMATING MACHINE. George R. Couls and Peter P. Dohlgreen, Tacoma, Wash. A reservoir, a spindle journaled in the bottom of said reservoir, a stationary cam-block, a hopper having cam projections upon its under side, said projections resting upon the cam-block, a shank projecting downward from the hopper and having a socket therein for the reception of the squared end of the spindle, means for rotating the



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spindle, a pump adapted to be actuated in unison with the rotating of the spindle, a pipe leading from the bottom of the reservoir to said pump, a second pipe leading from the pump to a point above the hopper, a guard W surrounding the hopper to prevent the spilling of the water, sand and flour gold so that it must of necessity fall on the said amalgam plate, a screen extending from the upper edge of the reservoir, an amalgam plate located beneath the screen, and a partition so placed within the reservoir as to form a pocket for the retention of sand and the like.

628,782. ELECTRIC FURNACE. James J. Faulkner, Memphis, Tenn. The combination with the furnace-chamber of two opposing electrodes, and means for automatically adjusting one of said electrodes.

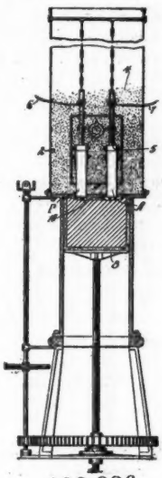
628,787. INCANDESCENT MANTLE AND PROCESS OF MAKING SAME. Ferdinand Fritz, London, England. The process consists in first impregnating a mantle of textile fiber with any known solution of metallic salts or of rare earths, destroying the fiber by combustion and subsequently treating the mantle or skeleton with a solution of celloidin in alcohol and ether, and with a solution of a salt of cerium.

628,806. METHOD OF PRODUCING CARBIDE OF CALCIUM. William S. Horry, Sault Ste. Marie, Mich., assignor to E. V. Douglas, Philadelphia, Pa. The method consists in arranging electrodes of opposite polarity in a vertical position and adjacent to each other, feeding a suitable charge of raw material around the electrodes, causing a suitable current to flow between the electrodes thereby reducing adjacent portions of the charge and producing an initial pool of carbide, keeping the charge around the electrodes of such depth as to retain a considerable portion of the heat generated and thereby maintaining the pool of carbide in a molten condition until it spreads out laterally beyond the field of reduction, and shifting the carbide and charge vertically with respect to the electrodes to bring successive portions of the charge into the field of reduction.

628,815. DERRICK. Charles W. Kearns, Chicago, Ill. The combination of a supporting-platform, a circular track arranged thereon, a turn-table mounted on the circular track, a hoisting-engine on the turn-table, and a cable connected to such engine and rove around the circular track and the ends thereof so secured to the supporting platforms as to secure a complete rotation of the turn-table.

628,832. OVERHEAD TRAVELING CRANE. Thomas R. Morgan, Sr., and William H. Morgan, Alliance, Ohio. The combination with a traveling trolley, a rack-bar carried thereby and a motor and gearing for actuating the rack-bar, or guide-rods, a counterweight mounted on the rods and means connecting the counterweight with the rack-bar for counterbalancing the latter.

628,861. HOISTING APPARATUS. Thomas Shipley, York, Pa. In combination with the motor-cylinder and its piston and piston-rod, the system of levers operated thereby, the two sets of sheaves carried by and moving with said system of levers, the leader or guide, and



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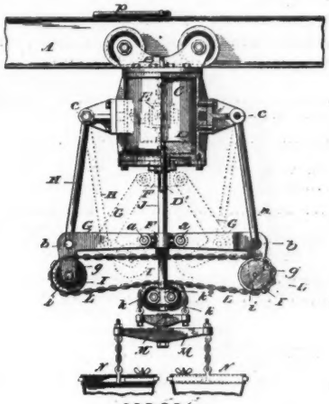

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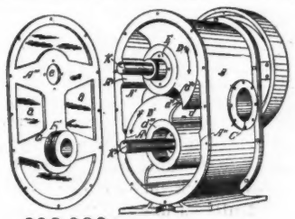
the chain extending in several folds around and across between the two sets of sheave-wheels and thence to the guide or leader, the system of levers being so arranged for operation that the lifting power of the system increases progressively as said system approaches the limit of its lifting movement.

628,876. APPARATUS FOR HANDLING COAL. William H. Wall, Nanaimo, Canada. The combination of a supply-track, a dumping-track, a carriage for transferring the cars from the supply to the dumping track, a cylinder and piston for moving the carriage, dogs for moving the cars along the supply and discharge tracks, cylinders and pistons for operating said dogs and means for controlling the supply of pressure to the several said cylinders.

628,906. ROTARY PUMP OR MOTOR. John Grindrod, Los Angeles, Cal. The combination set forth of a casing having a chamber provided with an inlet and an outlet; rotary segmental pistons arranged in said



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chamber; narrow bearing-faces projecting from the end and side walls of such chamber and fitted to conform to the faces of the pistons; chambers provided in the bearing-faces; and spring-pressure packings located in the chambers and adapted to be operated by the pressure to form packings for the pistons when pressure is applied on either side of the packings.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

Week Ending June 10th, 1899.

11,570 of 1898. ELECTROLYSIS OF SALT. G. and G. W. Bell, Liverpool. Improvements in the plant for electrolysing salt, in which mercury cathodes carry the metal to the oxidizing chamber.

11,895 of 1898. REDUCING SULPHIDES. J. Armstrong, London. Modification in the inventor's process for reducing sulphides by heating with carbon and carbonate of soda.

11,940 of 1898. ZINC SEPARATION. R. Threlfall, Sydney, N. S. W. Separating lead and zinc fume by leaching out the zinc with acid, sulphate of soda or potash.

12,005 of 1898. COAL WASHER AND SETTLER. C. Burnett, Durham. Recovering fine coal suspended in the water from coal washers.

Week Ending June 17th, 1899.

15,502 of 1898. ELECTROLYSIS OF SALT. J. Hargreaves, Farnworth, Widnes. Improved method of supporting the cathodes and diaphragms in the inventor's plant for electrolysing salt.

25,481 of 1898. ORE COOLER. P. Argall, Denver, Colo., U. S. A. Plant for rapidly cooling ore coming from furnaces.

27,506 of 1898. MINE DOOR. J. Alda, Essen, Germany. A ventilating door for mines that will open and shut automatically on the passage of wagons.

8,388 of 1899. MEANS FOR RAISING WATER FROM MINE SHAFTS. Ross E. Browne, San Francisco, and Fraser & Chalmers, London. A system of mine pumping, combining the vacuum system and the bailing system.

PERSONAL.

Mr. Hartwig A. Cohen returned last week to Salt Lake City from California.

Mr. W. J. Carton is looking over the more prominent Utah mining districts.

Col. H. G. Heffron returned to Utah a week or more ago from Cochiti, New Mexico.

Mr. James W. Neill has returned to Salt Lake City from a professional errand to Butte.

Mr. J. C. Dawson, formerly with the White Bear Mine, Rossland, B. C., is in San Francisco.

Mr. Benedict Crowell, of Cleveland, O., is in the Lake Superior region examining iron properties.

Prof. Raphael Pumpelly is examining mining properties in Clear Creek County, Colo., for Eastern parties.

Mr. Joseph R. Ryan now has charge of the Consolidated California & Virginia Mine, on the Comstock Lode at Virginia City, Nev.

Mr. Heber Holman is the new superintendent of the Best & Belcher and Gould & Curry mines on the Comstock Lode at Virginia City, Nev.

Mr. E. E. Burlingame, Denver's pioneer assayer, returned there a few days ago from a trip to Idaho, where he has been looking after his mining interests.

Col. W. P. Rend of Chicago, Ill., spent last week at Charleston, W. Va., and points further up Kanawha and New Rivers looking after his extensive coal interests.

Professor W. S. Keyes, who has been in Butte as an expert in the notable law suits there, has been giving a few days to Utah. He probably by this time is again in Montana.

Mr. A. L. Robinson, after a hurried visit to Utah, was back in Boston on Monday last. He devoted 2 days to Bingham and speaks in high terms of mining conditions generally.

Mr. R. L. Somerville, of Lonaconing, Md., has been promoted to be general superintendent of all the mines and property owned by the Georges Creek Coal and Iron Company.

Mr. Edmund B. Kirby, the well known mining engineer, of Denver, has gone to Rossland, British Columbia, on professional business, and will return during the latter part of September.

Mr. John Q. Denny, of Harrisburg, Pa., has been elected general manager of the Susquehanna Iron and Steel Company, recently organized by Philadelphia and Pittsburg capitalists.

Mr. W. D. Crawford, who has been assistant general manager of the Shoenberger Steel Company, becomes general manager of the Tidewater Steel Company, at Chester, Pa., on August 1st.

Prof. G. P. Grimsley, professor of geology at Washburn College, Topeka, Kan., is visiting the principal mining centers in California and Nevada, for the purpose of preparing lectures on economic geology.

Mr. J. R. Southworth, of New York, who is investigating the resources of the northern States of Mexico and making printed reports for the Mexican Government, is in San Francisco. He reports great activity in mining in the northern part of Lower California and in the States of Sinaloa and Sonora, most of the capital being American.

Mr. Paul Johnson, late superintendent of the Guggenheims' lead and copper smelting plants at Aguas Calientes, Mex., which plants he remodelled to a total smelting capacity of over 1,000 tons per day, has been in California for the last three months, where he has located and planned extensive smelting works for the California Copper Company at Madera, Madera County. Mr. Johnson will from there start for Greenwood, B. C., where he will plan, build and take charge of smelting works for the British Columbia Copper Company, Limited.

Mr. Ernest R. Woakes, who has been manager of the Darien Gold Mining Company's mines in the Republic of Columbia, South America, for the last seven years, has recently resigned the position of manager and has been appointed consulting engineer to the company, Mr. J. Allan Veatch being now the manager. Mr. Woakes passed through New York last week on his way to Nelson, British Columbia where he will reside for some months looking after the interests of the Duncan Mines, Limited, in that country.

Prof. Charles F. Chandler, of Columbia University, New York, has been elected president of the Society of Chemical Industry of England. Dr. Chandler has served as chairman of the New York section of the society, and is the first American to be elected president of an English scientific society. He studied at the Universities of Goettingen and Berlin. He was Professor of Chemistry at Union College before he was 21 years old, and in 1864 he helped found the School of Mines of Columbia University. He accepted the Chair of Chemistry in the College of Pharmacy of New York in 1865, and is still Professor of Organic Chemistry there.

OBITUARY.

W. G. Scott, a mining engineer, committed suicide in Pittsburg, Pa., on July 19th. Unsuccessful investments in the West was the cause.

Horace K. Thurber died July 20th, at Hailey, Ida. He was about 75 years old, and leaves a wife, but no children. Mr. Thurber for many years was one of the largest wholesale grocers in the United States, his headquarters then being in New York City. Since 1892 he had been interested in mining ventures in Idaho, and in 1895 located at Hailey. Since then he had done extensive work on the Camas No. 2, Pass, Narrow Grades, Red Elephant, Crown Point and other properties. He had also a large cattle business in Kansas and New Mexico.

Thomas M. Jenkins, one of the best known coal operators and shippers of the Pittsburg District, died July 18th at his home in Hazelwood, Pa. He was but 42 years of age. He was the son of Robert Jenkins, was born in Westmoreland County and came to Pittsburg in 1875. Soon after he assumed charge of his father's affairs and was associated with his brother in conducting the business, the firm name being T. M. Jenkins & Company. The firm practically controlled the Pittsburg market for some years. After the firm sold its retail trade Captain Jenkins devoted his time to the operation of the firm's mines. When a young man he was considered a first-class pilot and was frequently entrusted with large tows of coal shipped to Southern points. Captain Jenkins was one of the most active members of the Pittsburg Coal Exchange and took a deep interest in all matters looking toward the improvement of river affairs.

Lloyd Tevis, ex-president of the Wells, Fargo Express Company, died in San Francisco, July 24th. He was born in Shelbyville, Ky., on March 20th, 1824, but in 1849 left home for California by way of the plains. His early experiences of California life were gained in an El Dorado mining camp. For two years he carried on a law and real estate business in Sacramento, and early in 1853 removed to San Francisco. He was more or less prominently connected with many of the great public enterprises which accelerated the development of the State, such as the California Steam Navigation Company, the California State Telegraph Company, the San Francisco Dry Dock and the San Francisco Gaslight Company. Mr. Tevis was also largely interested in the Kern County Land Company, a great colonization and irrigation scheme. He was also connected with mining enterprises, being a large shareholder in the Anaconda Mine, near Butte, Mont.; the Ontario Mining Company, of Park City, Utah; the great Homestake Mine at Lead, S. Dak., and others. At one time he was president of the Southern Pacific Railroad Company, and at the same time the largest stock owner. He was also president of the North American Commercial Company, one of the most extensive fur-dealing corporations in the world. He was president of the Wells Fargo Express Company for many years.

SOCIETIES AND TECHNICAL SCHOOLS.

Massachusetts Institute of Technology.—Entrance examinations have been held this year at Albany, N. Y.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, O.; Cleveland, O.; Concord, N. H.; Dever, Colo.; Detroit, Mich.; Exeter, N. H.; Indianapolis, Ind.; Kansas City, Mo.; Louisville, Ky.; Manlius, N. Y.; New York, N. Y.; Philadelphia, Pa.; Pittsburg, Pa.; Portland, Me.; Poughkeepsie, N. Y.; St. Louis, Mo.; St. Paul, Minn.; Springfield, Mass.; and Washington, D. C. The total registration, 633, is 78 more than last year, and the largest in the history of the Institute. Of these 261 are preliminary applicants for admission in 1900. A continually increasing proportion of applicants divide their examinations between 2 successive years. Entrance examinations are also held in Boston in September.

International Association for Testing Materials—American Section.—The second annual meeting will be held at Pittsburg, Pa., on August 15th and 16th, the sessions being at the rooms of the Engineers' Society of Western Pennsylvania and headquarters being at the Monongahela House. The provisional program issued by Secretary R. L. Humphrey, states that the opening session will be in the morning of Tuesday, August 15th. In the afternoon a visit will be made to the furnaces, mills and laboratories of the Edgar Thompson Steel Works. In the evening will be an informal dinner at the Monongahela House, followed by a second session, at which the Chairman will make his address. On August 16 the final session will be held in the morning and in the afternoon there will be opportunity for visiting the works of the Westinghouse Electric & Manufacturing Company, and other industrial establishments.

Engineers' Club, of Philadelphia.—At the meeting on June 3d 57 members and visitors were present. The paper of the evening was by Mr. George A. Ricker, of Buffalo, N. Y., who described the engineering features of the construction and present method of maintenance of the railroad running on the American side of the Niagara River from Niagara Falls to Lewiston. His remarks were illustrated by a series of photographic views enlarged by the electric lantern, and by maps and sections of this road. The details of the construction of this and other roads of similar engineering difficulty were discussed by Messrs. John Birkinbine, James Christie and others.

Mr. William R. Dunn was elected to active membership, Messrs. Constantine Shuman and James Herbert Stitzer, Jr., to junior membership, and Mr. James Thompson to associate membership.

INDUSTRIAL NOTES

Geo. G. Jackson of Denver, Colo., recently shipped to the Montana Ore Purchasing Company of Butte, Mont., 2 15 H.P. hoists of special design.

The Delaware, Lackawanna & Western Railroad Company has given the Lackawanna Iron and Steel Company, of Scranton, Pa., an order for 2,500 tons of 80-lb. rails.

Chas. H. Schaeffer, of Marquette, Mich., and Noah W. Gray, of Ashland, Wis., are repairing Carp charcoal furnace at Marquette, Mich., and expect to put it in blast in early fall.

The Allentown Rolling Mills, of Allentown, Pa., has blown in one of its anthracite furnaces and expects to blow in the other about August 10th. Both furnaces have been idle since 1894.

The Empire Steel and Iron Company is repairing its Victoria Furnace, at Goshen Bridge, Va., and expects to have it ready for blast in August or September. Its annual capacity is about 50,000 gross tons.

The Illinois Steel Company has begun work on 2 new blast furnaces at South Chicago of the greatest capacity, which will not blow in until the fall of 1900, as at least 15 months will be required to complete them.

The Hewett-Sisley Company, mining brokers, of Butte, Mont., has, it is announced, been dissolved. L. A. Sisley will continue business and the new firm will be known as L. A. Sisley & Company, mining stock brokers.

The Knoxville Iron Company, of Knoxville, Tenn., has bought the entire plant of the Harriman Iron Works at Harriman, Tenn. The plant will be improved and enlarged. It is a modern rolling mill, but has not been operated to its full capacity for several years.

The 600 employees at the Riverside Iron and Steel Company works, Benwood, W. Va., have had an increase of 10 per cent. in wages. This makes the second increase since the first of the year, and the first granted under the management of the National Tube Company.

It has been announced that Matthew Addy & Company, of Cincinnati, O., are to be the general and executive sales agents of the Tennessee Coal, Iron and Railroad Company after August 15th. They will have the sale of all the brands made by this company, which is now the owner of 20 furnace stacks.

The Buffalo Forge Company, of Buffalo, N. Y., has secured the contract for the entire supply of forges and blowers to be used in the temporary machine shops on the Port Arthur section of the Chinese Eastern Railroad. The order, which was secured through the M. S. Friede Company, of New York, calls for 106 forges and 14 blowers.

Among other sales made by the Bullock Electric Manufacturing Company, of Cincinnati, O., in June were: Burgess Steel and Iron Company, Portsmouth, O., one 10 and one 20 H. P. motor; Maryland Steel Company, Sparrow's Point, Md., one 10 H. P. crane motor; Wyeth Hardware Manufacturing Company, St. Louis, Mo., two 10 H. P. elevator motors.

The Ironsides Company, of Columbus, O., which, among other articles, manufactures special lubricants for wire rope and gearing, that form a protective deposit on the surfaces exposed to wear or other destructive action, reports large sales of its goods to general mining and manufacturing concerns throughout this country, and an encouraging trade also with foreign countries.

It is stated that the Imperial Government Railways of Japan and a large New York exporting house have recently placed orders for 7 Baldwin-Westinghouse electric locomotives for use in the Government and other mines in Japan. The engines are the joint manufacture

of the Baldwin Locomotive Works and the Westinghouse Electric and Manufacturing Company.

The new 48-in. universal mill of the Carnegie Steel Company, Limited, at Homestead, Pa., is in operation. A. R. Hunt is manager and about 300 men are employed. The new universal plate mills cover six acres and cost $3,000,000. The new open hearth mill No. 3 has also been put in operation for the first time. There are 20 furnaces of unusual capacity and 4 more furnaces will be added at once.

The National Steel Company has, it is stated, let contracts at Newcastle, Pa., for building and equipping the largest blast furnace in the Shenango Valley. The furnace is to cost $1,000,000, with a capacity of 600 tons daily. The entire product of the new blast furnace and of all the other furnaces now in operation will be consumed by the steel plant. The capacity of the latter will be increased from 1,000 tons daily, its present capacity, to 1,500 tons.

The Virginia Iron, Coal and Coke Company, of Bristol, Va., is repairing its furnace at Radford, Va., that was built in 1892 but has never been in blast. The company is also repairing its furnace near Bristol, Tenn., and expects to blow it in about September, and recently purchased the mineral lands of the Big Stoney Mining Company, at Interior, Va., also the Big Stoney railroad, which runs from Interior to Ripplemead, 12 miles.

The Harrison Safety Boiler Works, of Germantown Junction, Pa., sold recently these Cochrane feed water heaters and purifiers: Illinois Steel Company, Chicago, Ill., 22,000 H. P.; Duluth Furnace Company, 1,500 H. P.; Mariopol & Nicopol Mining and Metallurgical Company, Russia, 2,500 H. P.; Reed Furnace Company, West Middlesex, Pa., 1,250 H. P.; Pittsburg Terra Cotta Company, Point Murray, N. J., 500 H. P.; and made these sales to the Cochrane separators: Carnegie Steel Company, two 16-in., one each 14¼-in. and 12-in.; United States Navy Yard, Charlestown, Mass., 10-in.; Oil Well Supply Company, Bradford, Pa., two 7-in. and one 4½-in.; American Blower Company, London, England, 4-in.; Latrobe, Pa., Steel Company, 7-in.; Lehigh Valley Railroad Company, Sayre, Pa., 10-in.

The Union Sampling Works, in Denver, have been sold to Henry E. Woods, who proposes to remodel them and fit out a plant for the testing of ore in large quantities. The plant was erected by Joseph M. Marshall 14 years ago, and was operated by him as a public sampler for several years. It was then sold to Herman E. Joy, who also operated it for a time, but it has been idle for 5 or 6 years. Mr. Woods intends to convert it into an experimental concentrating mill, furnishing a place where miners can make satisfactory tests of their ores with a view to concentration, and ascertain not only the adaptability of the ores to concentration, but the proper methods of treatment. The plant will be constructed, first, with a view to the most modern methods of concentration, and, second, to provide means for testing any quantity of ore from 1 to 100 tons. The mill is to be thoroughly equipped with modern machinery, including crushers, rolls, jigs, Wilfley and other tables and vanners, so that whatever the character of the ore, its most economical method of treatment can be accurately determined.

The Diamond State Steel Company, of Wilmington, Del., has let a contract for acid and basic open hearth furnaces of daily capacity of 400 to 500 tons to W. W. Lindsay & Company, of Philadelphia. The blooming mill and tables are being made by the Mesta Machine Company, of Pittsburg. The large reversing engine is being made by Wm. Tod & Company, Youngstown, O. The electric charging machine, cars and charging boxes are being made by the Wellman-Seaver Engineering Company, of Cleveland, O. All of these contracts are based upon such deliveries as shall put the plant in shape to begin running in January next. Julian Kennedy, of Pittsburg, is acting as consulting engineer. The company now has upward of 1,300 employees, and on July 24th puddling rates, $3.75 per gross ton, and other mill wages became in proportion, this being the fifth advance the company had made in wages during the past few months. The officers of the company are H. T. Wallace, president; L. A. Bower, vice-president (with special charge of the New York business office); W. E. Boughten, treasurer; W. H. Wallace, secretary, and E. B. Martin, superintendent of the steel department.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

ALASKA.

Cape Nome.

The United Coast and Geodetic Survey recently received a report from G. R. Putnam, at St. Michael, regarding the recently opened gold fields around Cape Nome. Mr. Putnam says he cannot vouch for the accuracy of floating reports, but it is certain that new fields have been opened from 5 to 30 miles back from the coast, between Cape Nome and Cape Rodney. There are about 2,000 miners in this section, with their principal settlement at Anvil City, a town not yet on any map except those of the transportation companies. It is claimed by the boomers that some of the new country is very rich.

Koyokuk River.

Sunflower Mining Company.—This Fort Scott, Kan., company left for Alaska 18 months ago, sailing in its own steamer from San Francisco. It is now reported stranded at St. Michael. The company started with money and provisions for 2 years. It spent the winter on the Koyokuk River, 2,300 miles above St. Michael and 400 miles above the furthest point it could reach by boat. News from them received recently tells of suffering and hardships. All of the money was spent in prospecting, but no gold was found. The report indicates the worthlessness of the Koyokuk District.

Kotzebue Sound.

It is stated that the United States Government will probably have to aid prospectors, said to number 1,000, who are stranded in this desolate country. Twelve hundred men went into the Kotzebue country well outfitted. Two hundred succeeded in getting over the snow last winter. Many died en route. The great majority of those who went in are said to be on the shore of the Sound waiting for a chance to come home. No merchant vessels will run to that district this year, and the whalers which call for fresh water will not take passengers. Many of the men are said to have been sick with scurvy and are going to float down the streams running into the Sound to wait for Government help.

Details of the loss of the Bens expedition were brought by passengers of the Bertha, which arrived at San Francisco recently. Out of a party of 17 persons who left Port Townsend June 11th, 1898, for Kotzebue Sound, to prospect for gold, only one survives, Mrs. H. W. Bens, of Clay City, Ky.

ARIZONA.

Gila County.

Black Copper.—This mine, owned by H. L. Highdon, near the Black Warrior, is reported shipping regularly to the smelter at Silver City.

Old Dominion.—The new hoist at this mine, near Globe, is stated to be the largest in the Territory, with 20 x 60 cylinders, direct acting double reel hoist, operating 2 flat ropes ⅞ x 5½ in. either simply or in balance, and capable of hoisting a double-deck cage with 2 cars from a depth of 2,000 ft.

Yavapai County.

The Big Bug Smelter at Arizona City, operated by the Arizona, Eastern & Montana Company, is buying ore. The starting up of these works, idle since 1897, adds an impetus to general mining in Northern Arizona. The company owns the Easy Boss, Governor Teddy, Hackberry and Bogg's claims.

Yuma County.

Polhamus.—This group of copper claims has been bonded by Chicago and Los Angeles parties. It is in Seneca District, including what are known as the Gregory, Grand Cross, Garfield, Grant, Homestake, Boston and Bay State mines, owned by D. J. Shackrow and James May. The property is on old one.

CALIFORNIA.

(From Our Special Correspondent.)

Anti-Debris Association.—The executive committee of the association met at Sacramento, July 18th, to discuss the condition of the hydraulic mines on the American Bear, Yuba and Feather Rivers. Some of the mines have closed down on account of the water supply and others are still running. The association intends to make a thorough investigation of all mining territory and close down all mines working injuriously before the end of the next mining season. It was decided to push to a final issue the cases of Yuba County vs. the Kate Hayes Mining Company, Sutter County vs. John Spaulsing et al., and Yuba County vs. P. Calabel et al.

Amador County.

(From Our Special Correspondent.)

Belluomini Ranch.—On this property, 1 mile south of Jackson, a tunnel is in 50 ft., and the ledge will probably be cut within the next 300 ft. Several veins crop out on the property.

Moon.—This property, about 1 mile southwest of Jackson, has been worked for several years, but became so wet that work was discontinued. A new shaft has now been started which has not encountered the large flow of water found in the other shaft.

Calvaras County.

(From Our Special Correspondent.)

Gold Reserve Consolidated.—On the Bruner Claim, part of this property, 2 miles south of Angels, the shaft is down over 300 ft. and the ore at this point, 30 ft. wide, prospects well.

Fresno County.

(From Our Special Correspondent.)

Chandler & Canfield have struck oil on the West Side. The well is spouting 100 ft. in the air.

Kern County.

(From Our Special Correspondent.)

Randsburg District.—Work has been resumed on the Pinmore Mine near Johannesburg, and a large vein of low grade ore is being developed. The Yellow Aster is milling about 130 tons per day. Work on the Kenyon has been suspended temporarily. The Wedge is working 8 men and the Butte is taking out good ore.

Mono County.

(From Our Special Correspondent.)

Castle Peak.—This property, formerly known as the Dunderberg, 12 miles south of Bridgeport, has passed into the hands of A. D. Sullivan, who will drive the lower tunnel until the ledge is reached. This will probably be at a depth of 150 ft. below the old tunnel, which showed the ore shoot to be 450 ft. long and from 4 to 6 ft. wide, assaying from $10 up. It is thought the mine will prove a large producer.

Placer County.

(From Our Special Correspondent.)

Jefferson.—This mine, formerly known as the Colan Claim, on Osborne Hill, 2½ miles southeast of Grass Valley, has been bonded by John Lawrence, representing San Francisco capital, and work is to begin at an early date. The Hermosa plant has been purchased and is now on the ground. The old workings show some very good ore.

Shasta County.

(From Our Special Correspondent.)

Ballakala.—This group of 18 copper claims near Kennett may change hands this week.

Black Diamond Copper Company.—This company continues development on a large area of ground near Stillwater. Geo. Bayha, the general manager and part owner, recently paid $30,000 for a ½ section of copper claims, and has securede several sections by location, bond and purchase. H. Dobelstein, who arrived recently from Cologne, Germany, is superintendent. The company is composed of Dusseldorf and Cologne capitalists. Development may last 2 years. The properties are near Pitt River and a few miles from the Southern Pacific Railway, to which an electric road may be run.

Bully Hill.—This group of mines, together with the Baxter, Callinger, Wenthworth and Popejoy claims, 3 miles north of Copper City, has been purchased by Capt. J. R. De La Mar, of New York, who was represented by Hartwig A. Cohen. The consideration for the first named group was $200,000, while $25,000 was paid for the latter. The claims are said to be high grade propositions, the ore carrying a large percentage of gold and silver, for which they were originally worked. The property is a smelting proposition and it is said that Capt. De La Mar will erect a smelter as soon as he thoroughly develops the mines. A connection will also be made by rail with the Southern Pacific Railroad at Kennett.

Mammoth.—J. F. Coleman, who is developing this copper mine near Kennet, is in New York to close a sale of his claims, which comprise nearly 1,000 acres of well wooded ground, 2 miles from the Oregon division of the Southern Pacific Railway and the Sacramento River.

Old Spanish.—At this mine, 5 miles west of Redding, in sinking the new 2 compartment shaft, water has been encountered at a depth of 50 ft. and a tunnel is being driven in the hill side to carry it off. The shaft will be sunk about 200 ft. deeper before a level is run, and a second one will be run when the 500 ft. level is reached. On the Enright claim a tunnel, in 290 ft., will probably cut the ledge in another 50 ft. A new hoist is to be erected and other machinery put in.

Sierra County.

(From Our Special Correspondent.)

Alta.—At this mine a cyanide plant is being installed, and a 3-stamp mill, triple discharge to each stamp, will probably be running by August 1st. Thomas J. Parsons, of the Del Monte Milling Company, is owner.

Kenton.—At this mine near Alleghany, a body of ore 14 ft. in width has been opened up and

arrangements are being made to put in a cyanide plant. This, in connection with the mill and concentrators, ought to give the company all the values in the ore. Mr. T. B. Bassett, superintendent of the Oasis Mining & Reduction Company, formerly of the Golden Cross Mine of San Diego County, is in charge.

Osceola.—This mine, near Alleghany, is reported to have been sold to Los Angeles parties, who have taken possession and are laying in supplies and are doing preliminary work. Mr. E. Garnier, formerly of the Kenton Mine, will be superintendent.

Plumbago.—The management of this mine, 2½ miles south of Alleghany, is putting in a large Pelton wheel on the Yuba River, from which point compressed air will be delivered to the mine, about 2 miles distant, running all the machinery of the mine.

Siskiyou County.

(From Our Special Correspondent.)

Humbug Flume & Mining Company.—The placer and hydraulic mines belonging to this company, located at the mouth of Humbug Creek, 12 miles northeast from Yreka, are being actively worked by Sprengler Brothers, who employ a large force of men in sluicing the bedrock gravel, uncovered during the winter and spring by ground sluicing. The water supply is getting light, but will hold out for some time yet. The mines are well equipped and the clean-up this season will probably be very large.

Mabel.—Work on this property, on the north side of Baldy Ridge, 7 miles northeast of Scott's Bar, is to be resumed under the management of J. W. Martin. Arrangements have been made for the survey of a road to the mine, and a mill site has been located on which a mill is to be erected. The old workings comprise 4 tunnels. The vein is from 1 to 4 ft. in width.

Trinity County.

(From Our Special Correspondent.)

On Cedar Creek, about ½ mile above the Copper Queen Mine, a large copper ledge is reported to have been found and a number of locations made.

Tuolumne County.

Golden Key Mining Company.—This company has elected the following officers for the ensuing year: C. Nauman, president; Wm. H. Snyder, vice-president; A. W. McQueen, secretary; F. A. Wallin, treasurer, and G. W. Mann, managing director.

(From Our Special Correspondent.)

Goldwin Mining Company.—On the Rhode Island Claim, 2 miles south of Carters, on the east fork of the Toulumne River, the winze in the tunnel is down 85 ft. and in 40 ft. more drifting will begin on the vein both ways. The vein which is 8 ft. wide, carries a good quality of ore. Rock from the old workings is said to have milled $40 per ton.

Mexican Mining Company.—This company is developing the Urquhardt property, comprising 9 claims 6 miles northeast of Groveland, all of which are to be opened up. A shaft is down 160 ft. on a 3-ft. ledge, which reported to assay $29 free gold and to carry 1% sulphurets worth $124 per ton. The plant consists of a steam hoist, a 2-stamp mill, concentrators and a new style amalgamator. Jos. Urquhardt is superintendent.

COLORADO.

Smelter Strike.—It now seems likely that many smeltermen will return to work soon. At Durango and Pueblo the striking employees express satisfaction with the terms offered to them, and work may be resumed any day. Work is progressing at Colorado City, Florence and Cripple Creek. At Denver the breach between the managers and the men continues, and efforts to get men enough to start up have been unavailing. A report that over 200 men were on the road from Missouri to take the places of the strikers at the Globe works caused much excitement. The managers had several consultations with the police and sheriff's office, and the guards at the plants were doubled.

Boulder County.

(From Our Special Correspondent.)

Bailey Mill.—This new chlorination plant at Eldora to treat the ore from the Enterprise mine has a capacity of 75 tons daily, and is said to save 85% of the values. The ore goes first to a large "Comet" crusher, thence to the dryer, thence to two sets of roughing rolls, the oversize going to a finishing roll. From the screens the ore goes to a large storage bin over the feed hearth of the Brown straight line roaster that is fitted with modern appliances, including a return cooling hearth of steel, which delivers the cooled ore to an elevator which carries it to a large storage bin, where it is weighed and placed in the charging hoppers over the chlorinating barrels. There are 3 barrels of 50-ton-per-day capacity. From the barrels the solution is filtered into lead-lined tanks the tailings being dumped into a reservoir for settling before entering the creek. From the settling tanks the solution is drawn to the precipitation house, where the gold is precipitated in large tanks by hydrogen sulphide gas. From the precipitation tanks the liquor and precipitated gold is run through filter presses.

At intervals the filter presses are cleaned and the product, after being refined and melted is cast into bricks. The capacity of the mill will vary with the character of the ores. The ore is handled automatically throughout. H. A. Clerk, superintendent, formerly connected with the chlorination mill at Colorado City, has a force of 20 men.

Clear Creek County.

(From Our Special Correspondent.)

Bay State Mining Company.—In drifting to the east in the large mine of this company, located at Dumont, a wide body of mineral has been opened. It is of low grade, but will pay to treat at the mill of the company.

Bonaccord Mining Company.—A Chicago Company has been organized to work the Atlantic Company, which incurred considerable indebtedness. The shaft has a wide streak of sulphide milling ore and the mill will treat this product.

Copper Discoveries.—Some remarkable finds of copper ore continue to be made near the divide between Clear Creek and Jefferson Counties up from Morrison. This quartz, while not solid, as yet runs about 40% of copper. S. E. Roberts of Denver has one of the best finds so far.

Crockett Mining Company.—This company has sunk the shaft to 800 ft. without driving a level. Some 8 stations are now being cut and drifts will be extended in both directions. An adit driven in the earlier days of mining has disclosed a big body of ore, and it is for this that the Chicago Company began work. The manager says that he will have about 50 men at development and sink the shaft to a depth of 1,000 ft. The Stanley Mine drains all of the Crockett vein.

Frostburg.—Maxwell & Company, who are leasing this property at Silver Plume from R. O. Olds, have finally reached a body of silver ore in what is known as level "B." It runs 240 oz. silver, 60% lead and 8% zinc.

Garden Mining Company.—This company, working on Seaton Mountain, has opened a good streak of iron ore in sinking a shaft, and drifts are just starting. The same shoot was found in an adjoining property and nets about $60 per ton.

Kaffir.—A new townsite is being established 3 miles above Silver Plume and at the base of McClelan Mountain, because of the recent gold finds which have been made in that locality. A great number of prospectors are opening up promising leads.

Gilpin County.

(From Our Special Correspondent.)

Aetna.—Local parties have taken hold of this property on Quartz Hill. The machinery has been overhauled and the shaft timbered up to its depth of 500 ft. A Sullivan air drill will be used. F. Dalsasoo of Central City is manager.

Cook.—Last month's production was 75 tons of melting ore, 2.750 tons of milling ore, producing 540 tons of talings. A force of 110 men is at work and the property is being opened in big shape. C. K. Cohen of Central City is manager.

Egyptian. The Egyptian Leasing Company is going to operate this property in the interests of Eastern parties. J. B. Philipps is manager.

Elk Park Mining and Milling Company.—This company is working 35 men and taking out enough ore to keep the mill busy, about 40 tons. In the mill a Cammett table has been put in, which is giving good results. C. L. Hathaway, Apex, is manager.

Lombard.—A good strike has been made on this property near Yankee Hill. The crevice is 4 ft. wide and carries values from $10 to $12 per ton. The smelting ore averages over $100 per ton. The property is owned by Dr. Abe Ashbaugh of Central City.

National.—An examination is being made in the interests of Eastern parties. J. Smock is manager at Central City.

O'Neill.—Canadian parties are interested in this property and will install an air compressor. H. C. Eastman is manager at Central City.

Sunshine.—Southern parties are ging to put up a small plant of machinery and continue developments. P. F. Collie, Central City, is manager.

Topeka.—A shipment of ore from the property treated at the State Ore Sampling Works gave returns of $1,480 per ton. The ore was from the 800-ft. level, and alongside it lies a 10-ft. vein of milling ore carrying values of 10 oz. gold per cord, which, with the tailings, brings the ore up to a value of $46 per ton, high grade for milling ore. Henry P. Lowe of Central City is manager.

Lake County.

(From Our Special Correspondent.)

Smelter Situation.—The Arkansas Valley smelter is arranging to blow in 5 of its 10 furnaces, and to follow with the remainder during the week. No trouble is anticipated, as the scale prepared is generally acceptable. The new scale submitted by the smelter management puts the prices up to what they were in 1893. The only exception is in "general labor." It is expected, however, that plenty of men will fill in to take the places of those who do not wish to work at the scale offered. The wages for the principal departments are as follows: Furnacemen, new scale, $3.50; old scale, $3; tappers, new scale, $3; old scale, $2.50; pot pushers, new scale, $2.75; old scale, $2.50; general labor, new scale, $2; old scale, $2. Throughout every other department the new scale shows a raise, and was received with pleasure by the workmen with the exception of "general labor." The Bimetallic, which has been running for the past month, is now in full force.

Manganese Output.—Geo. W. Cook ran shipments up to 200 tons a day this week, and will increase this tonnage to 250 tons daily before Aug. 1st. He obtains the ore from the Catalpa-Crescent, operated by lessees, and the Garden City and Last Chip, controlled by himself.

Zinciferous Ores.—In addition to the Moore contract, which goes to Belgium, the Golob-Colly people will send 150 tons to the zinc works at Swansea, Eng. Most of the concentrates run 50%. The ore comes from the zinciferous deposits found in the Maid.

Board of Trade.—This new shaft in Big Evans, northeast of the Dolly B., and worked also by the Connolly Brothers, will be the largest and deepest shaft in the camp. It is 7 x 18 ft., and Manager Connolly intends to sink 1,600 ft. through the Weber grits and porphyry. Owing to bad roads it has been impossible to get the machinery to the mine, and it still lies at the Dolly B.

Banker Mining Company.—The Banker shaft, on Breece Hill, is nearly 800 ft. deep, and 25 ft. more should put it into the limestone. Operations are conducted under the personal direction of John Guth, of New York. The shaft is sinking on a good streak, which, it is believed, will lead to the main ore body.

Boston Gold and Copper Smelting Company.—This Boston syndicate has purchased the old Elgin smelter and its ground at Leadville. Work will bein at once on a 300-ton furnace. The deal was made through Mr. W. B. Duvall, general manager, who states that the new furnace will be completed in 30 days. The process is the Loder Pyritic Reduction Company's patent, and is controlled in this State by this Boston Company, which is capitalized at $1,000,000. Machinery was ordered some time ago, as it was the intention to build at Robinson, in Summit County, but owing to difficulty over the ground the site was secured in Leadville. For the present the company will draw on Lake and Summit counties for its ore, having a plant at Ward, Boulder County. The old Elgin plant is in the northern part of the city, on the Colorado & Southern Railway tracks. It was owned by the Elgin Smelting Company, of which Mr. Albert Sherwin is president.

Doris.—Machinery is all in place and Manager Harry Mamlock begins work this week.

Gordon.—A report received from Twin Lakes is that this gold property has been sold to Denver people. The mine has been involved in litigation for a number of years, and has been worked only on a small scale. It consists of 2 lodes, the Gordon and Bengal Tiger, on Mt. Elbert, and shows several thousand feet of drifting and other development work. Considerable money has been taken out.

Gwendoline Leasing Company.—Manager Van Camp, in charge for the Omaha syndicate to operate this Iowa gulch combination, has all machinery in positoin, and is enlarging the old shaft on the Gwendoline, and as soon as this is completed to its depth, 70 ft., the shaft will be pushed to the ore.

Orion.—Manager Stead is opening up a rich ore body in his development on this property. The drift run from the 475 ft. level has encountered the original shoot of rich chlorides that was so successfully operated a few years ago through the Penrose. The ore is being sacked. It is a hard carbonate covered with chlorides and a large part of it assays from 300 to 500 oz. silver to the ton.

Porphyry Mountain Strike.—E. A. Brockway brings news of a find in that locality that is exciting attention. Frank Henry has cut a 70-ft. vein just north of Porphyry Mountain that runs 26 to 40% lead and 5 to 8 oz. silver.

Revenue Mining Company.—No. 1 shaft, near Alhambra Mine, on Oscar Placer, has reached a depth of 185 ft. No. 2 shaft is 1,500 ft. east and south of No. 1, and is down about 25 ft. New machinery is being put in.

Pitkin County.

Stark Milling Company.—This is the new firm, consisting of E. R. Stark, S. C. Arnold and E. B. Green, that will operate the Holden laxivation works at Aspen. The company states that

it has already assured an abundance of ore to run the mill with a capacity of 8 tables.

San Miguel County.

(From Our Special Correspondent.)

Liberty Bell Gold Mining Company.—J. W. Mercer of Telluride, general superintendent, is adding 40 stamps to the company's mill, just east of town, giving it 80 stamps and enabling it to treat from 150 to 175 tons of ore daily. The ore is from the Liberty Bell Group of mines, in Cornet Creek Basin. It runs in gold and silver, but the gold is largely free milling. The vein is from 2 to 5 ft. wide and frequently widens to 10 ft.

North American Exploration Company.—E. I. Field of Telluride, resident manager, recently started 10 stamps of the Telluride Power Transmission Company's 120-stamp mill, in Bear Creek, on ore from the Nellie and Ella mines. In the next 2 weeks 10 or 20 more stamps will probably be at work. In the 4th level of the Nellie, the Star Gazer cross vein, was recently cut and at the intersection gives promise of becoming a valuable producer. At and near surface this lead carries from 4 to 5 ft. of free milling gold ore averaging $15 per ton on mill plates. The company intends to build a stamp mill of its own.

San Juan Gold Mining Company.—The large mill which this company last summer built in Gold King basin to treat ore from the Bessie Group, is being remodeled into a cyanide plant, the old method of rolls, roasters, etc., not having proved a success. Two hundred and fifty tons of mineral were sent to the plant at Florence, and found to be perfectly adapted to the cyanide process. The normal capacity of the new plant will be 200 tons in 24 hours. W. S. Buckley of Telluride is Western manager.

IDAHO.

Blaine County.

Tiptop.—The mill at Hailey is running smoothly, handling 50 tons of rock in 24 hours, and turning out 5 tons of concentrates. The tailings are said to assay but 40 to 80c. gold per ton, and the concentrates to contain less than 7%. silica. The ore from the mine varies decidedly, some carrying sulphurets and copper, and some being free milling.

Idaho County.

Basic Dredging Company.—The third dredge of this company, on Grimes Creek, 2 miles below Centerville, is nearly completed.

Illinois.—William Williamson of Spokane has secured for himself and others a bond in this gold mine in Gambrinus District for $30,000. The property has been worked at intervals for 20 years, but the shaft is but 75 ft. deep. It will be sunk to 300 ft.

Klondike.—The Stephens Brothers are running a new tunnel on this lode, 6 miles below Idaho City, between More and Grimes Creeks. The tunnel will cut the lode at 175 ft. below surface. The lode is 8 ft. wide.

New England Dredging Company.—This company, which is working on More Creek, near Idaho City, has sent a drilling machine to prospect a group of claims in Stanley Basin.

Philadelphia.—This company has completed digging ditches on More Creek, 10 miles below Idaho City, and is putting in a bedrock flume. The company owns 4 miles of placer ground along the creek.

Washington.—A body of milling ore 8 ft. wide is reported cut in the bottom of this mine at Idaho City.

Shoshone County.

Mining Conditions.—The trial of the men implicated in the riots of April 29th is proceeding slowly, the defense fighting every point. There is no prospect of martial law being removed for several months. In the meantime most of the mines are running with reduced forces.

Helena-Frisco.—The company is working 50 men day shift and 30 night shift at its mine, near Gem, and moving over 250 cars of ore daily.

ILLINOIS.

Christian County.

Penwell Coal Company.—This company, of which Geo. V. Penwell, of Chicago, is president, has decided to close down its mines at Pana, claiming that granting the locked-out miners' demands would prove a greater loss than abandoning the mines.

KANSAS.

Coal Miners' Strike.—Judge Williams, in the Federal Court at Kansas City, last week, granted injunctions against President Wright of the Fourteenth district of the United Mine Workers of America, against the executive board in charge of the southeast Kansas strike, and against every union miner. The defendants and all other persons who may combine, or conspire with them are enjoined from interfering with, or obstructing the business of the coal companies or from entering upon or congregating near their property, or from threatening or molesting any employee.

MICHIGAN.

Copper.

Quincy.—The new No. 7 "upraise" shaft is now completed, a depth of 4,000 ft. It started at the 4th level Jan. 1st, 1898.

The shaft was started from surface at an angle of about 54 degrees. At a depth of 1,000 ft. the dip changes, and gradually flattens. For several levels at the bottom the shaft is in the vein, while for the remaining distance sinking and raising was conducted regardless of the dip of the vein, the shaft being sometimes in the foot and sometimes in the hanging wall. The upper and lower sections holed about 60 ft. below the 13th level and the meeting points form a perfect continuation. J. L. Hains had charge of the engineering work and Thomas Whiting had charge of the mining. It will require about 6 months to timber the shaft to the bottom. The territory south of No. 7 shaft, especially in the upper levels, is practically virgin ground. The permanent hoist and steel rock and shaft house, as well as other necessary machinery, have been ordered. The completion of the new stamp mill will occur at about the same time. The new shaft will supply rock to 2 heads.

Winona Copper Company.—This property, on which work was abandoned in 1864, was taken under option in May, 1898, by Paine, Webber & Company, of Boston. The Winona Company, organized in November, is keeping steadily at development work. The principal lode, an amygdaloid, has been opened up for 2,700 ft. by 2 shafts and several pits. The lands are in Ontonagon County, 20 miles southwest of the Baltic. The nearest supply point is Greenland, 16 miles away, on the Chicago, Milwaukee & St. Paul Railroad. No. 1 shaft is in the N. E. ¼ of Section 29, T. 56, R. 32. It is down over 225 ft. and 2 levels are started. The lode is 16 to 33 ft. wide. The dip of the lode is 72°. No. 2 shaft, 900 ft. south of No. 1, is down 175 ft. and the first level has started. Between the 2 shafts is a boiler and engine houses built of steel frames covered with corrugated iron. In it are 4 80-H. P. boilers, a 2-stage Ingersoll-Sargeant compressor with a capacity for driving 12 No. 3 drills, and a hoist with 2 5-ft. drums holding 700 ft. of rope. The Copper Range Railroad will run within 1,500 ft. of these openings. About 110 men are now employed. The main offices are in New York. John Stanton being president, J. W. Hardley secretary, and John R. Stanton treasurer.

Wyandot.—This property, says the Ishpening "Iron Ore," lies north and east of the Winona Lode. At present 20 men are prospecting for the Winona Lode at a point 1½ miles north of the Winona shaft. Wm. Van Orden of Houghton, is superintendent. The main offices are in Boston. Henry Stackpole is president; W. O. Gay secretary and treasurer.

Iron—Marquette Range.

Brotherton.—This partially developed mining property, adjoining the Swanzy, southeast of Negaunee, has passed into the hands of Pickands, Mather & Company, who are arranging to open the property.

Queen.—At this group of mines, near Negaunee, about 600 men are now busy, and the output of ore is steady.

Iron—Menominee Range.

A discovery of ore is reported north of Metropolitan, on the Felch Mountain Range, by Burr Catlin, of Iron Mountain. The ore is stated to assays 50% iron, .007 phosphorus and 30% silica. The find is in T. 29, R. 33.

Commonwealth.—This company is working a steam shovel in its Badger pit, near Florence, and getting out about 2,000 tons ore daily.

Florence.—At this mine, at Florence, about 135 men are at work, and more are needed.

Riverton.—At this mine, near Iron River, the drifts and crosscuts are being opened, but stoping will not begin for some time. More miners are wanted.

MINNESOTA.

(From Our Special Correspondent.)

Two record breaking cargoes of iron ore were taken from the head of the lake the other day; one by the Bessemer (Rockefeller) tow barge "Smeaton," of 8,259 net tons, and the other by the Minnesota Iron Company's tow barge "Manila," and was 30 tons smaller. Both were first cargoes for these ships, and will probably be exceeded by several hundred tons later in the year. They are some 400 tons larger than anything carried before. Both ships were laden to about 18 ft. The "Manila" and steamer "Black" that towed her, carried a combined load of 15,524 net tons. Dock managers claim that vessels are not coming fast enough to take ore as rapidly as it comes from the mines. The Eastern Minnesota road, which is building to the center of the Mesabo range, is to erect a new and very large ore dock, probably with storage for 60,000 gross tons. It will have to be the highest dock on the lakes, as the company must prepare to handle ships of 30 ft. depth. The new docks of the Duluth & Iron Range road are 59½ ft. high, but could not care for such ships without trouble.

Mesabi Range.

(From Our Special Correspondent.)

Auburn Iron Company.—This mine, near Virginia, has shipped its stockpile and is sending out only the daily hoist. The mine has a number of mills and a steam shovel working at the bottom of its open pit, 120 ft. deep. It employs 175 men and belongs to the Minnesota Iron Company.

Commodore Mining Company.—This mine, at Virginia, is employing more men than at any time in its history, and is shipping some 1,500 tons a day. The mine is in better shape underground than in past years and is finding better ore, with prospects of more than had been supposed to exist.

Fayal Iron Company.—This mine, at Eveleth, has shipped nearly all its 350,000-ton stockpile and will be sending out only the daily hoist in a few days. It has 3 shafts as well as 1 milling pit, but will have a second mill opening in about a month.

Franklin Group.—These mines, at Virginia, belonging to the Republic Iron and Steel Company, with headquarters in Chicago, are now employing about 150 men and will ship some 100,000 tons the rest of the season. The ore is fine grade. Some ore in stock will also be shipped.

Hibbing Townsite.—This property, at Hibbing, has been sold by Messrs. Alworth, Washburn & Chisholm to a large mining company for a large sum. The property has been explored sufficiently to settle the fact that it has a very large body of Bessemer ore. It is understood that both lease and fee have been sold, the former at $75,000, the latter at $200,000.

Vermilion Range.

(From Our Special Correspondent.)

Explorations.—J. M. Underwood, who discontinued work at Robinson Lake some weeks ago, has recommenced and has secured a large additional tract of land. The showings being made there are very encouraging. The report published in local papers of the range that J. J. Hill was back of this work are absolutely untrue. A diamond drill that has been operating on Section 36, T. 63, R. 12, for the Mahoning Company, has been moved to section 25, where the Pittsburg & Lake Angeline Company is at work. A drill has also been started at the west end of T. 63, R. 11, for R. Whitesides, of Duluth.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Joplin Ore Market.—There was no change in the price for top grade ore, but lower grades were slightly off, and in consequence the valuation for the week is below that of the previous week, although the output was somewhat larger. There is again a surplus, but relations between the producers and smelting interests are much more satisfactory than ever before. Top grade zinc ore sold for $44.50 and lead was steady throughout the week at $27.50 per 1,000.

During the corresponding week last year, top grade zinc ore sold for $28.50 per ton and lead at $23.50 per 1,000, the output was less by 1,939,700 lbs. of zinc, 20,870 lbs. of lead, and the value was less by $75,459. For the first 29 weeks of last year the output of lead was greater than this year by 5,611,830 lbs., but the zinc sales were less by 67,672,380 lbs., and the value was less by $2,821,794. Compared with the preceding week there was an increase in the shipment of 191,940 lbs. of zinc and 60,450 lbs. of lead, but the value was less by $7,305. Following is the turnin by camps:

	Zinc, Pounds.	Lead, Pounds.	Value.
Joplin	1,383,530	248,730	$35,894
Webb City	799,500	35,570	16,968
Carterville	840,030	165,100	18,369
Oronogo	701,020	.....	14,673
Galena-Empire	2,333,530	416,250	53,124
Belleville	169,360	.....	3,557
Duenweg	157,530	1,050	2,935
South Jackson	212,980	1,100	4,645
Central City	214,890	6,710	4,483
Stotts City	291,760	.....	6,127
Cave Springs	26,890	.....	484
Granby	265,000	10,000	5,012
Aurora	1,685,000	10,500	19,010
Hell's Neck	241,930	18,680	5,707
Morgan County	124,160	50,000	4,352
Total for week	9,347,110	963,690	$195,340
Total 29 weeks	292,829,850	26,215,460	$6,323,864

An important joint meeting of representatives of the smelting interests and directors of the Missouri & Kansas Zinc Miners' Association was held this week to discuss the matter of fixing a minimum selling price for ore for 6 months in advance. The smelting interests represented were the Cherokee-Lanyon Spelter Company (the old combine), the great Lanyon Zinc Company, popularly known as "The Trust"; the Girard Zinc Company, Geo. Nicholson of Nevada, the Prime Western of Iola, Kansas, and the Empire Zinc Company of Joplin. Matthiessen & Hegeler, the Illinois Zinc Company and the Edgar interests were not represented at the meeting, which was merely preliminary. It is believed that the 2 latter concerns will come in

while Matthiessen & Hegeler will stay out, as they manufacture only block and sheet zinc. The next meeting will be held August 1st. The minimum selling price for the next 6 months will probably not be under $40 per ton, nor over $43 for top grade zinc ore, and the fact that such an arrangement is possible and probable, shows that conservative counsels rule both among ore producers and metal manufacturers. The arrangement between the metal men and the producers will probably include other matters beside the scale of prices and a mutually good understanding will lead to a reduction of the output by means that will not prove burdensome to either operators or employees. If the Association is successful, as now seems probable, in regulating prices, the directors will turn their attention to other matters calculated to benefit the district, including changes in lease regulations, the extension of the uses of zinc and more efficient pumping systems.

Mining Land Sales.—The Elkins farm of 120 acres, west of Granby, in Newton County, was sold last week to Gilbert Barbee and others of Joplin for $4,500. Five months ago the same land sold for $1,600. Ninety-two acres of valuable land were sold this week by Sheriff Warren at partition sale for $9,200. The tract adjoins the Shaffer land at Prosperity. A ⅛ interest in the Wild Rose Mine on the John H. Taylor land, west of Joplin, was sold to E. V. Wysbrod of Findlay, O., for $2,500. John McGinty and B. T. Brown of Galena have sold a 2/3 interest in their 8 lots east of Joplin for $4,000. The Rain Crow Mine in Newton County has been sold for $12,000. Other sales reported foot up about $12,000.

MONTANA.

Beaverhead County.

Beaverhead.—A good strike is reported at this mine, 1 mile below Bannack, owned by John Innes. Messrs. Mathews, Edwards, Sheldon and Jackson, who have a $1,500 bond on the property, struck at 90 ft. a rich pocket of wire gold just as they tapped the main ledge. The ledge is said to be 8 ft. wide and assays average $80 per ton. Enough of the $80 rock has been taken out and sacked to take up the bond. Messrs. Matthews, Edwards, Sheldon and Jackson last year leased the Excelsior gold mine on the opposite side of the gulch.

Granite County.

Nancy Hanks.—This mine is located at Garnet, 11 miles north of Heil Gate River. It is down 285 ft. The gangue matter at that depth is from 5 to 7 ft. wide. The walls are soft granite. The dip of the lead is about 58 degrees north. The water at present time is easily handled by a sinking pump with a 4-in. pipe. The shipping ore runs about $100 to the ton, with something like 15 oz. in silver, and as high as 10% in copper. The selected ore is shipped to Butte for reduction.

Lewis & Clarke County.

Montana Mining Company, Limited.—This company reports that the total output for June was: Gold, 2,400 oz.; silver, 14,400 oz., obtained from 3,800 tons of ore crushed in the mills, and 12,360 tons of tailings from the dams brought under treatment. The estimated realizable value of the produce of crushings is $26,000, of tailings $30,300, a total of $56,300. The expenditure was: Working expenses on revenue account, $23,000; development, $7,700; extraneous expenses, $800; permanent improvements and machinery, $500; treatment of 12,360 tons tailings, $14,374; redemption of cost of tailings plant, $4,326; total $50,700; leaving an estimated net profit of $5,600. The 50-stamp mill was in operation for 27 days; the tailings plant was in operation for 30 days. There is no material change in the workings at the south end of the mine. The junction of the 1,000-ft. level with No. 3 shaft is progressing, but not yet completed. The estimated realizable value per ton of the tailings treated during the month of June was $2.45, as against $4.07 per ton treated during the previous month, which principally accounts for the diminished net profit shown in this month's return.

NEVADA.

Eureka County.

Haywood Mining Company.—At the annual meeting the following directors were elected: Joseph Layman, Frank Armstrong, J. J. Winn, Pat Quinn and William Norton. The following are the new officers: President, F. C. Armstrong; secretary and treasurer, J. J. Winn; superintendent, Patrick Quinn. The company will shortly make a lease of 2,060 ft. of the north end of the mine to Ed and William McTigue, Jack Quinn and Alexander Armstrong.

Storey County—Comstock Lode.

Overman Mining Company.—The company has re-elected the old directors and officials. The directors are: W. G. Morrow, W. E. Sharon, Maurice Schmidt, J. P. Martin and A. S. Groth. The officers are: W. G. Morrow, president; Maurice Schmidt, vice-president; A. Mackay, superintendent, and George D. Edwards, secretary.

Savage Mining Company.—At the annual meeting in San Francisco the old directors and officials were re-elected by a unanimous vote. The directors are: George R. Wells, Charles H. Fish, Herman Zadig, Thomas Anderson and H. B. Goodwin. The officers are: George R. Wells, president; Charles H. Fish, vice-president; E. B. Holmes, secretary, and H. M. Gorham, superintendent.

Nye County.

Several new claims located by T. J. Bell and J. G. Court south of San Antonio last spring are reported bonded for $100,000 to H. A. Cohen, of Capt. J. R. De La Mar's staff, on June 30th.

NEW YORK.

Onondaga County.

Empire Portland Cement Company.—This company's works at Warner, near Syracuse, were destroyed by fire July 21st. The loss is covered by insurance.

OHIO.

(From Our Special Correspondent.)

A large number of miners are being taken from the Kanawha coal fields to work in the mines in Kansas and Indian Territory. Men are already scarce in the Kanawha Valley. Every mine in that section is now getting out all the coal it can; the greatest trouble is a scarcity of cars and men, about which all the operators along the river are complaining.

Sunday Creek Coal Company.—This company, whose principal office is in Columbus, O., and which operates mines in Perry, Athens and Hocking counties, has sold out to the Morgan interests in New York. The same management remains in effect, however; J. S. Morton, president; Geo. W. Bright, vice-president, and J. F. Stone, secretary and treasurer, all of Columbus, O., and C. C. Sharp, superintendent, Corning, O.

Perry County.

(From Our Special Correspondent.)

Sulphur Springs Coal Company.—The company is opening a store at Sulphur Springs in connection with its mine there.

Sunday Creek Coal Company.—C. C. Sharp, superintendent, is putting in an electric plant at the mine 8 at Corning, for coal cutting purposes. Joseph Lyman of Gloucester, O., has been appointed mine boss.

Turney & Jones Company.—The company has opened its Congo No. 2 Mine at Congo, after an idleness of several months.

OREGON.

Baker County.

(From Our Special Correspondent.)

Badger Gold Mining and Milling Company.—The company is grading for a 250-ton cyanide plant.

Colorado and Colorado Extension.—These claims, which adjoin the Maiden's Dream, were bonded on July 10th by Gen. Compson and Wm. O'Donnell, of Portland, for $25,000. A contract has been let to sink 200 ft. and drive a tunnel 400 ft. The showing is good.

Ednah.—An assay of the croppings gave $2.90 free, from the Lenora $3, and an adit on the Cora Smith 20 ft. deep gave $32. The claims are on Silver Creek.

Forrest Queen.—This claim, owned by J. D. Voss, is 7 miles northeast of Sumpter, on Deer Creek. A shaft sunk 40 ft. gives $12 free gold. The formation is a taley slate. Both the ledges average 12 ft. wide, and are the only quartz properties in the district.

Four rich strikes were made in Sunsanville District this week by Cripple Creek prospectors.

Little Giant.—Late in 1898 W. L. Vinson and Thos. K. Muir, representing London capital, bonded this group of claims from McAvoy & Sheridan for $35,000. Development work has proven the property to be a valuable one, and Vinson & Muir have discounted the bond price for $30,000 cash. Their order was increased from a 10-stamp to a 20-stamp mill.

Pride of Oregon.—This claim, on Lake Creek, about 7 miles northeast of Sumpter, owned by Voss, Allen & Porter, has been opened by an open adit 80 ft. deep and 20 ft. wide, without either wall showing thus far. It shows a large vein of hematite, iron and porphyry, carrying 52% iron and from $5 to $22 in gold.

Union County.

Union.—The name of this company has been changed to the Cornucopia. The company has begun to erect a cable tramway from their mill at Cornucopia to the Last Chance Mine; the distance is 2 miles over rough mountains. Finch & Comel of Spokane, Wash., have broken ground on a mining enterprise adjoining the Cornucopia mines.

PENNSYLVANIA.

Anthracite Coal.

A number of Berks farmers are to bring joint suits against the Philadelphia & Reading Coal and Iron Company, the Lehigh Coal and Navigation Company, the Silver Creek Mining Company, the Mill Creek Coal Company and about 20 individual operators in Schuylkill County, for damages caused by coal dirt washed down by freshets on the plaintiffs' lands during the past few years.

Delaware & Hudson Company.—About 110 men are grading the storage grounds and putting in tracks at Carbondale. The storage grounds will be large and the coal will be stored in piles. Seven tracks are to run through the center of the park and 3 at the upper end. The coal is to be shoveled and reloaded by 2 powerful pieces of apparatus operated by stationary steam engines. The 2 outside tracks will have pits beneath them, into which the coal will be dumped and taken by the carriers to the piles. The track on which the carriers will run consists of a single rail. It is laid on ties, and the plans call for a number of these rails, 30 ft. apart.

Lehigh Valley Coal Company.—This company's Packer No. 4 and Primrose collieries at Shenandoah, idle since last January, undergoing extensive repairs, will resume operations on full time August 1st. They will employ 2,000 men and boys.

Bituminous Coal.

Bedstone Coal, Oil and Gas Company.—At this company's mine, at Grindestone, 5 miles from Brownsville, on July 24th, 4 men were killed and 2 injured by an explosion occurring just as the miners were entering the pit by the shaft, which is 240 ft. deep. It was caused by a fall in entry No. 10, which drove an accumulation of gas into another entry, where it was ignited by a digger's open lamp.

Slate.

(From Our Special Correspondent.)

Albion.—The Albion Slate Company has declined to assist in removing the debris of the July 4th slide. Wm. Harding & Company, lessees, are working the one free rope until the expiration of their lease in January, 1900.

Bangor Superior.—Keenan Bros., lessees, have arranged to vacate their lease August 1st. Protracted litigation is ended by creditors agreeing to a forced sale. A new company will continue the workings.

Park Slate Company.—The quarry operators and the factory of the Wind Gap Slate Manufacturing Company are producing 1,000 ft. of blackboards daily. The rock is excellent for blackboards, blocks from 6 to 8 ft. long being steadily quarried.

Danielsville Slate Company.—The property has been seized by the sheriff. The bondholders have foreclosed on judgments amounting to $20,269.

Diamond Quarry.—Quintus Sandt & Company have begun shipments from this new quarry at Pen Argyl.

Grand Central.—This Pen Argyl quarry is producing 80 to 100 squares of roofing slate, 1,000 ft. of blackboards and 2,000 school slates daily. New equipments just installed include a second channeller of special design for quarrying blackboard material.

North Bangor Slate Company.—Surveys have been made for enlarged workings and an inclined tramway to the railroad tracks. President E. Drake and Secretary S. A. Wilkinson have been re-elected.

White Oak.—Western railroad capital has become interested in this quarry and the Globe Hard vein, at Edelmans. The White Oak has been leased to be worked for 6 months.

William Lobb & Sons.—This firm is producing from 3,200 to 3,500 squares per month now, working 4 hoists since resuming. The balance of the rubbish will require about 4 months to remove, but does not require attention now.

RHODE ISLAND.

Providence County.

Cumberland Iron Trap Company.—This Boston company, of which Dr. David Hunt is said to be president, has purchased the famous deposit of iron ore on Cumberland Hill, 3 miles east of Woonsocket, the granite quarry near Diamond Hill Station and the great outcrop of quartz rock known as Diamond Hill, besides several hundred acres of other land. The Cumberland iron ore deposit, making a ridge about 1,000 ft. long and over 100 ft. high and nearly 200 ft. wide, has often been examined since Colonial days as affording an iron smelting industry for the State, there being good limestone but 8 miles distant. The ore, however, contains a high per cent. of titanium, is menaccanite rather than magnetite. The present company proposes to use the rock for road metal, and is erecting a large crusher, conveyors, etc., made by the American Road Machine Company of Kennett Square, Pa. The supply of good trap rock within a radius of 100 miles or so is said to be limited. A spur track about 2 miles long is to be run in from below Diamond Hill Station. The company will work the ledge as an iron mine, should future experiments show the availability of titaniferous ore or should the percentage of titanium decrease with depth. The rock from Diamond Hill makes good road metal, from its light color well adapted for use in parks or private grounds.

SOUTH DAKOTA.

Custer County.

(From Our Special Correspondent.)

Alexander Mill.—L. B. Parker, representing Colorado mining men, has leased the old Alexander Mill in Four-Mile Camp, and will put in concentrators to treat custom ore. Most of the Custer County ore is a concentrating proposition, and not free milling.

Grand Junction.—The shaft is being sunk to the 100-ft. level, where drifting will be done. The first 40 ft. of the vein is free milling, but the ore is rapidly becoming a concentrating proposition. The mine is in good hands, and a plant will be erected this season.

Lizzie.—The shaft is down 285 ft., and a drift has been run 45 ft. It is believed that the main ledge has been encountered.

North Star.—The drift is being continued from the shaft bottom to catch the main vein of ore. The water is under control.

Vigilante.—The shaft has been put down 180 ft. and drifts have been run 140 ft.

Wild Rose.—A vertical of free milling and concentrating ore has been opened up on the Wild Rose Claim, 2 miles east of Custer, owned by M. S. Daly and associates. The ledge has been stripped 100 ft., and is about 2 ft. wide.

Lawrence County.

(From Our Special Correspondent.)

Tungsten Ore.—Considerable ore is being shipped. The producing mines are the Harrison and Durango, in North Lead District; Two Strike, in Yellow Creek District, and an old mine near Hill City, belonging to the Harney Peak Tin Company. The owners of the Harrison are treating the ore in the Cris Ruth stamp mill and concentrating it. The old ore on the dump of the Durango Mine is being sorted.

American Mining Company.—Work has stopped again at the Dacy shaft, at Ragged Top, while a new bit for the diamond drill is being put in. The shaft is down about 500 ft., and the drill has gone down about 20 ft. deeper.

Baltimore & Deadwood.—This plant has been running on a low grade cement ore at Central City, using 10 stamps. The mill is closed down and preparations are being made to enlarge the mill to 20 stamps. The company is composed of about 30 Chicago men. About $30,000 have been expended in the enterprise.

Blacktail District.—Mining is very active at present. It is stated that a Boston syndicate has leased and bonded the old Esmeralda mine and mill, and will add a cyanide plant. The mine contains cement ore. There are 3 other companines working on this cement proposition in the gulch.

Decorah.—F. M. Wall, of Ragged Top, has leased a portion of the Decorah Mine, and has commenced shipping ore to the Spearfish cyanide plant. He has made arrangements with outside parties to erect a cyanide plant. The new cyanide plant, which is being erected by Allen, Small, States and others, is nearly completed.

Hawkeye.—It is stated that the Hawkeye Mining Company will start up the mine and mill at Pluma. David Hunter, general manager, is expected from Des Moines, Ia.

Pennington County.

(From Our Special Correspondent.)

Holy Terror.—The 10-stamp mill will be started again this week. On account of a scarcity of wood for fuel only the 20-stamp mill has been running for some time.

Juniper.—A rich strike of ore has been made in this mine, near Keystone. It is a vertical vein and the surface drift above the ore pans well.

Pine Needle.—This property is being developed extensively and the indications are considered good.

St. Elmo.—This mine, owned by W. W. Marsh and associates, of Omaha, has closed down temporarily. A vertical shaft is to be sunk and a hoist put in.

Sunbeam.—This new property, on Friday Gulch, is owned by Hawk Wright and son, of Custer. A shaft has been sunk 60 ft., at which depth the vein is 2 ft. wide.

Sunnyside.—The owners of this mine are still struggling to get the water under control. The heavy rains this season have been a great setback.

Train.—This is another property in Friday Gulch, owned by Joe Sharp, Wm. Pettit and John Byers. A shaft has been sunk 65 ft. on a 2-ft. vein of ore.

Tycoon.—A vein of ore has been discovered by Prof. Rothermel on the Little Tycoon ground near Keystone.

Wheeler Hill.—W. R. Castle, of Lead, has purchased six claims at Wheeler Hill on Castle Creek. He has commenced opening up a ledge of free-milling ore.

TENNESSEE.

Union County.

John Weir Company.—The company states that it now controls the property on Powells River, formerly owned by the Edes, Mixter & Heald Zinc Company. These lands were worked for lead ore as far back as 1776. The deposits show large bodies of zinc blende, besides carbonate and silicate of zinc. The mining hitherto has been on a small scale, without systematic methods. The rock crushes easily, and the ore can be readily concentrated. The John Weir Company now controls the mineral right of about 5,000 acres of land in Union, Claiborne, Anderson, Jefferson and Knox counties. It is reported that the Clinton Furnace is to be put in working order and a furnace may be erected at Mossy Creek to treat ores. The concentrating plant at Mossy Creek has been overhauled and equipped with improved devices. The company expects to prospect with a diamond drill.

UTAH.

(From Our Special Correspondent.)

Bullion and Shipments.—During the week ending July 22d there were sent forward from the trust smelteries 23 cars, or 937,051 lbs. lead-silver bullion; 2 cars, or 83,194 lbs. copper bullion. Including the cars loaded the prior week the second consignment of pig copper from the Utah Consolidated smelter consisted of 5 cars, or 296,413 lbs. to be credited to the week of July 22d. For the same period there were forwarded East for treatment, from the different camps of the State 49 cars, or 1,933,780 lbs. of ore and concentrate products.

Cyanide Products.—Manager Moore, of the Salt Lake quarters of the Consolidated Kansas City Smelting & Refining Company, states that the value of consignments of products from cyaniding mills in July will be fully threefold that of the same month last year. The product of De La Mar's Mercur mines has been marketed here this year but without this increment the increase is about 40%. It is said that in August the refinery of the De La Mar mill will be again in commission.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—In the week of July 22d there were sent out from the 3 railroad points of the district 122 cars of oge, 8 cars of concentrates and 6 bars of bullion. Mammoth heads the list with 27 cars of ore; followed by Bullion Beck, 20 cars; Grand Central, 14 cars; Centenniel Eureka, 8 cars; Gemini, 7 cars; Godiva, 6 cars; Swansea, 6 cars; Uncle Sam and Humbug, 5 cars; Sunbeam, 4 cars; Four Aces, 2 cars; Eagle and Blue Bell, 1 car; Spy, 1 car, and Dragon Iron, 21 cars of hematite for flux. Bullion Beck shipped 6 cars of concentrates and Sioux Mill, 2 cars. From the Mammoth were forwarded 6 bars of bullion.

Buckeye.—A contract is let to Del Roberts to sink the shaft an additional 100 ft. Preparatory work for the actual sinking will require 10 days.

Mammoth.—From 1,800-level a shoot of gold rock, carrying $40 to $700 per ton, was broken into last week. Its extent is not fully proven.

Salt Lake County.

(From Our Special Correspondent.)

New Mammoth.—Since the Michigan men learned that the ore exposed showed average values of fully $9 per ton they have resumed negotiations to purchase the control.

Old Leonard.—D. W. Kimball has taken a lease and bond on this claim for $25,000.

Red Wing.—It is easy to supply the mill with 40 or 50 tons daily—the present capacity. Some slight improvements would more than double its capacity.

Utah Consolidated.—The wire tram to the railroad is idle half the time, as the smelter cannot take the ore. Superintendent Channing states it will be easy to maintain a 500-ton daily output.

Tooele County.

(From Our Special Correspondent.)

Northern Light.—Within 10 days 2 consignments of cyanide product were sent out. The mill is doing excellent work. President Airis says that dividends may come by Christmas.

Star.—This Pine Canyon Mill has established a new record for cyanide products marketed in Salt Lake City. A choice lot last week brought $71 per lb. The outlook for the property is hopeful.

WASHINGTON.

Ferry County—Republic.

(From Our Special Correspondent.)

Alice Eureka.—The tunnel is in 100 ft., and a contract has been let to run it 75 ft. further.

Black Tail.—The north drift has cut through 2 small quartz veins, respectively 1 and 2 ft. wide. It is in 154 ft., and should cut the main lead at 20 to 25 ft. further. Sinking continues on the Surprise vein. The shaft is down 33 ft. in ore on the hanging wall with good assays.

Golconda.—This property is owned by a New York Company, of which Dr. A. R. Ledoux is president. The quartz cropping, 4 or 5 ft. wide, shows quartz running from $2 to $47 per ton. The property is opened by 75 ft. of tunnel and 250 ft. of shaft work. It has been idle some time.

Golden Harvest.—The tunnel on the vein is in 405 ft. At 340 ft. a winze has been sunk on the vein 57 ft. The vein is 9 ft. wide at the bottom, of which 7 ft. is quartz, and 1 ft. in the hanging and footwalls is of talcose material. The last 20 ft. the quartz runs in value from $11 to $26, with an average of $18 per ton. The claim has been idle for some time on account of an adverse claim having been filed against an application for United States patent.

Golden Lion.—The tunnel is in 390 ft. in solid porphyrite. The drift on the quartz stringer has been discontinued.

Gopher.—A permanent shaft has started to cut the vein and follow it on the dip. A whim and skip will be used for hoisting.

Manhattan.—The tunnel, in 40 ft., has been idle, but work will start on it immediately.

North Star.—The new tunnel is in 140 ft., and the first 50 ft. are substantially timbered. The ground breaks from 4 to 5 ft. a day, with 2 shifts employed. The winze from the upper tunnel is down 80 ft.

Palo Alto.—A crosscut is started 60 ft. from the mouth of the tunnel, to ascertain what has become of the big ore body the tunnel started on. Another crosscut is started at the end of the tunnel to cut vein encountered in the crosscut 115 ft. in.

Quilp.—The main shaft is down 60 ft., and an upraise has started from the tunnel to connect with it. Upon its completion the shaft will be continued below the tunnel level.

San Poil.—The south drift has been running some time on a pinch, but a few days ago a sample of ore taken from the face assayed $140 per ton, of which $21 was in silver. In the north drift the face presents 2 ft. of ore, with fair values, and a crosscut has started for the hanging wall to ascertain what it carries.

Zala M.—At this claim, in Sheridan Camp, the company has begun running a tunnel to strike the vein 600 ft. in, at a depth of 300 ft.

WEST VIRGINIA.

Fayette County.

(From Our Special Correspondent.)

Capt. W. R. Johnson has begun work on a road up Blake's Branch of Smither's Creek with a view of developing his coal lands there, of which he owns 10,000 acres. This road connects with the Kanawha & Michigan Railroad near Cannelton.

Jefferson County.

Prospecting for copper is reported to be going on in the hills near Shepherdstown. The work is in charge of David Carvalho, of Atlanta, Ga.

Kanawha County.

(From Our Special Correspondent.)

Campbell Creek Coal Company.—The company has shut down their mines on Campbell's Creek.

Great Kanawha Power Company.—The company has its electric plant started at Riverside. Two coal companies, the Riverside Coal Company and Big Mountain Coal Company, are cutting their coal with the power, and the other companies expect to start in a few days.

FOREIGN MINING NEWS.

AFRICA.

Rhodesia.

The total output of gold reported by the Rhodesian Chamber of Mines for June was 6,104 oz., making 36,204 oz. for the six months ending June 30th. This is equivalent to 29,697 fine oz., or $613,827.

Transvaal.

The gold production for June and the six months ending June 30th is reported as follows by the Chamber of Mines of the South African Republic, as below, in crude ounces:

	Witwatersrand.	Other Districts.	Totals.
January	410,145	20,865	431,010
February	404,335	20,831	425,166
March	441,578	22,458	464,036
April	439,111	21,238	460,349
May	444,933	21,519	466,452
June	445,763	21,508	467,271
Totals	2,585,865	128,419	2,714,284
Totals, 1898	1,961,663	127,143	2,088,806

The increase in the Witwatersrand for the six months was 624,202 oz., or 31.8%; in the outside districts, 1,276 oz., or 1%; making the whole gain 625,478 oz., or 29.9%. The entire output this year was equal to 2,225,713 fine oz., or $46,005,488.

ASIA.

India—Mysore.

Colar Gold-field.—The output of the mines in this field for June was 37,160 crude oz., the highest reported this year, though it was exceeded in one month in 1898. For the six months ending

June 30th, the total was 206,913 crude oz., against 207,163 oz. in 1898; a decrease of 250 oz., or 0.1%. The total this year was equal to 186,222 fine oz., or $3,849,209.

CANADA.

Ontario.

Great Lakes Copper Company.—This company has been organized with a capital of $3,000,000 in $5 shares, to develop and work two tracts said to contain copper deposits. One tract is 25 miles northeast of Sudbury, and on it two shafts have been sunk and a tunnel driven. The other tract is 5 miles west of Sudbury.

British Columbia.—West Kootenay District.

(From Our Special Correspondent.)

Iron Horse.—Operations have been suspended at this Rossland mine for some days. Various excuses have been given, but it would seem that there is little in sight to justify further expenditure.

Le Roi.—Recently an accident to the compressor caused the suspension of ore shipments. July 13th, 14th and 15th, up to July 20th, this company had shipped approximately 45,000 tons; the War Eagle, 23,200 tons; Center Star, 2,700 tons; Iron Mask, 1,350 tons; miscellaneous, 200 tons; total, 72,450 tons.

Rambler-Cariboo.—This old Slocan company has been disorganized and reorganization takes place under British Columbia laws. The new company has its headquarters at Kaslo. Its capital stock is divided into 1,250,000 shares of $1 each and 1,000,000 of the new shares will be exchanged for the old certificates and the remaining shares will be placed in the treasury. The new officers have not yet been elected.

War Eagle.—This Rossland company, July 14th, at Toronto, declared its usual monthly dividend of $26,250. The total amount of dividends paid by this company to date is $361,500. The new electric hoist is now running smoothly under the direction of E. J. Balfour.

Ontario—Rainy Lake District.

(From Our Special Correspondent.)

Decca Mining Company.—At this mine, also of the Mine Center group, a 10-stamp mill is to be installed next winter, development now having reached such a point that this can be economically done. An 8-drill air plant has started up, and drifting is in progress on a 5 ft. vein 100 ft. down. This mine is owned in Montreal.

Golden Star.—At this mine, located near Mine Center, dead work is being prosecuted with more vigor than at any time since mining began, with a view to making the mine an economical and steady producer and of selecting rock for the mill. The mine is earning well, but its dividends are to be reduced from 1% monthly to half that, payable quarterly, and a surplus will be built up, the development pushed and the mine put into shape for heavy future work.

Headlight Mining Company.—At this mine, located near Mine Center, developments are showing the most flattering results, and the machinery on the property will soon be increased materially.

Olive Mining Company.—This company, located near Mine Center, is testing its ore body with a diamond drill, the first to be used in the Seine River region. It is expected that many drills will be at work there another year.

Sturgeon Falls.—A survey of the large water power at Sturgeon Falls is being made by Capt. J. J. Durage, of Duluth, for a syndicate of Englishmen who have possession of it and hope to utilize the power for electrical transmission to the mines of the region.

Yukon District.

The Dominion Government telegraph line to Skagway from Dawson is completed to Five Fingers, and is progressing so rapidly that messages probably can be sent to Dawson in less than 2 months. Two representatives of a company which claims to have a concession for a cable from Vancouver, B. C., are now in Skagway. They say steps will very shortly be taken to begin the laying of the cable. Much London capital is said to have been subscribed for this cable.

CUBA.

Cuban Steel Ore Company.—This Philadelphia concern, with $3,000,000 capital, which proposes to develop iron mines 60 miles west of Santiago, is stated to have close relations with the Tidewater Steel Company, as the ore from the Cuban mines will go to the Tidewater Company's plant at Chester. The officers of the company are: Evans R. Dick, of Dick Bros. & Co., Philadelphia, president; Luther S. Bent, vice-president; Josiah Monroe, secretary and treasurer. The directors include the officers and A. W. Gibbs, George S. Graham, Isaac N. Solis, E. E. Glenn, Herman Michaelson, F. A. Baker and Robert McKinstry.

SOUTH AMERICA.

Dutch Guiana.

(From an Occasional Correspondent.)

Mindrinitti Placer Mining Company.—I am engaged just now for this company in moving a small mountain about 1,000 ft. by means of a pair of Cameron pumps, and two giant nozzles, knocking the stuff into a sluice over riffles into a sump, out of which it is raised by an 8 in. centrifugal pump and deposited 1,000 ft. away. The gravel itself runs from $1 to $7.50 per cu. yd.; but we are moving a deal of lean stuff with it just now, which reduces value to about $1. The tailings, mostly quartz and ironstone, carry $15 to $25 to the yard. The whole mass seems to be of decomposed quartz reefs; limonite and quartz conglomerate all yielding readily to the nozzle. This is underlaid by a mass of kaolinite from 10 to 50 ft thick, filled with stringers of quartz from ½ in. to 12 in. thick, running in all directions, intersecting one another; and plates of hematite from 3 in. to 12 in. apart, the space between filled with rotten quartz all carrying gold and crumbling as it falls under the stream. We get the free gold on the riffles (stone), but it would make you feel sad to see the good stuff going off in the tailings. These will stay where they are put, however. In the meantime our daily output of tailings of this sort would supply a 50-stamp mill. This will be another story, however, when we get to it. The gold shows no indications of transportation. It has evidently been liberated by the rotting of the quartz about where we find it. It is an extremely interesting country, and you will hear more of it, as the proper appliances are brought to bear to displace the native hand labor, and handle the stuff in quantities.

I have been here now over two years, and the deadly climate seems to agree with me very well. I never enjoyed better health. Keep out of the noonday sun, "fear God and keep your bowels open," is the proper prescription.

COAL TRADE REVIEW.

Anthracite.

New York July 24.

The demand for coal to go up the lakes by way of Buffalo is excellent. One company, and by no means the largest, reports that its western customers could easily take 1,000 tons a day more. The labor troubles at Buffalo led to a congestion of cars there that has not been remedied yet, and there is a general complaint of a short supply of cars at the collieries.

Demand in the east is very light. The sales agents of the large companies are all very positive in their refusals to sell coal for less than the schedule prices. Deliveries, however, on orders placed before July 1st are very active and the movement of coal is practically confined to such orders. The real test of the market will come in a month or less, when these orders are filled and buyers show no desire to pay the 25c. advance.

The supply of vessels at Buffalo has not been sufficient at current offerings to supply the demand and freight rates have risen to over 40c. a ton for Lake Superior ports and 60c. for Lake Michigan.

It looks as if there would be a period of waiting in August and September, at least so far as the New York market is concerned. In the past few years the consumers have usually profited by such waits. Whether or not they will this year remains to be seen.

Bituminous.

There continues to be a pressing demand for soft coal from along the Atlantic seaboard and the chief limitation on trade just now is the short supply of cars. This shortage hampers shipments decidedly. The heaviest demand is from points beyond Cape Cod. Many of the shoal water ports in that territory are stocking up, but buyers find fault with the high vessel rates asked. Captains realize that the supply of shoal water vessels is limited and are asking excessive figures, feeling that they have shippers and consumers at their mercy. Consumers realizing that this is the time of year when vessel freights should be lowest, are trying to rush coal forward on their delivered contracts even in cases at some loss rather than risk facing the high freight rates they fear are coming. At Long Island Sound ports the demand continues very good. New York Harbor trade is comparatively quiet, but what orders come in are generally for immediate delivery. Transportation from mines to tide is slow, and there is probably a large amount of coal hung along the main lines or at the seaboard shipping ports. Car supply is very irregular, one day it may be up to demand, and the next day away below. Probably the actual supply is less than two-thirds of the demand. In the seaboard vessel market, vessels are scarce and in demand. We quote current rates of freight from Philadelphia as follows: Boston, Salem, Portland and Bath, 85c.; Providence, New Bedford and the Sound, 75c.; Wareham, 80c.; Lynn, Newburyport, Bangor and Gardiner, 95c.@$1; Portsmouth, 85@90c.

Quotations are unchanged at $1.60@$1.65 for best grades at Philadelphia and the Chesapeake Bay ports. As a matter of fact, some companies cannot attend to transient orders, and others ask from 5 to 15c. above regular rates for immediate deliveries.

Birmingham Ala. July 24.

(From Our Special Correspondent.)

The output at the coal mines in Alabama for the year 1899 will show a decided gain over what it was during the previous year if the present conditions keep up. With two exceptions, all the mines in the State are at work, and at some of them every effort is being made to increase the output. The State Mine Inspector and his assistants are being kept busy looking after the mines, and the output is growing larger every day, while new mines are being opened right along. The latest mines to be opened are at Corona and Dogwood. The Corona Coal and Coke Company is opening a good-sized mine in Walker County, while the Export Coal Company is opening a small mine in Shelby County. The new mines being opened at Brookside, in Jefferson County, are beginning to get out coal for shipping purposes. At Pratt City, where are located more than a half dozen large mines; at Blocton, where are located four large mines, and at Blue Creek, where are three big mines, all worked by the Tennessee Coal, Iron and Railroad Company, the work is steady.

Good prices are being obtained for the product in the State, though operators of mines producing coal for the domestic trade altogether claim that the miners' wages advance more rapidly than do the prices for the product. The miners are now looking for another advance in their wages on Aug. 1st. Their scale is now 52½c. per ton, and an advance of 2½c. is looked for.

Strikes at Brookwood and Mable mines, in which about 500 to 600 men in all are interested, will be settled this week.

Chicago. July 26.

(From Our Special Correspondent.)

Anthracite.—The middle of summer finds the anthracite coal trade in and about Chicago in a very fair condition. The buying of coal has increased during the past few weeks, the July circular price evidently having been thoroughly digested and dealers are really buying in larger quantities than for some time past. There appears to be very little cutting in price, but an unusually large contract might be shaded somewhat. Out of town purchasing is better and considerable hard coal is moving North and Northwest. There is a plentiful supply of hard coal here and shipments via lake are becoming large. August circular prices are being discussed, and there would not be much surprise were another 25c. added.

Bituminous Coal sales continue good, the manufacturing prices continuing to purchase and take large quantities of soft coal, causing thereby a good steady movement of coal and a considerable help towards the maintenance of prices. A great deal of soft coal is finding its way to town, and it would have to be a tremendous market that would absorb such a tonnage from day to day. In consequence of the overproduction, consumers continue to buy soft coal at prices materially below the high prices of the past season. There appears no early probability of the mines limiting production, and it is likely that present conditions will prevail until cold weather comes.

Pittsburg. July 26.

(From Our Special Correspondent.)

Coal.—The demand for coal is increasing and prices have advanced. Some consumers are said to be offering a premium for prompt delivery. Complaint is made in some sections of a scarcity of miners. A number of diggers who had been engaged in Virginia to go to mines in the West arrived in Pittsburg last night and were induced to remain here. A strike, which has been threatened in the thick-vein mines since the mining rate went into effect on April 1st, will not occur this year. The diggers in the thick-vein mines work for 13.2c. a ton less than those in the thin-vein mines. They wanted this differential wiped out or cut in half. The question has been under discussion for several months and has just been settled at a convention of miners. It was decided to allow the present rate to continue until the end of the scale year. No labor troubles of any kind are expected and coal operators say the output this year will far exceed that of any previous year.

Connellsville Coke.—The coke production in the Connellsville Region last week exceeded any weekly output in the history of the district. The H. C. Frick Coke Company has every oven in blast except 24 at Sterling No. 2. The company is still importing workers from Virginia or any place where they can secure hands. Other large concerns are also importing men. All the abandoned ovens in the region that are worth it are being repaired and put in operation as soon as they are in shape.

The shipments last week aggregated 10,238 cars, distributed as follows: To Pittsburg and river tipples, 3,283 cars; to points west of Pittsburg, 4,730 cars; to points east of Connellsville, 2,225 cars. This is an increase of 1,499 cars as compared with the shipments of the week previous.

Shanghai, China. June 12.

(Special Report of Wheelock & Co.)

Coal.—Though demand has been rather light, a cargo of Cardiff which arrived this week has been placed well. In Australian there has been a heavy decline, owing to the breaking up of the syndicate which has controlled sales here. In Japan the market has been quite demoralized by heavy receipts, especially of the poorer grades.

We quote: American anthracite nominal at 15 taels per ton; Cardiff, 13.50 taels; Sydney Wollongong, 11.50 taels; Japan, 5.50@7 taels, according to quality.

Kerosene Oil.—Seldom have we seen a fortnight when so little business has been done in American; first hands have parted with very little and the tea shops have also been inactive. The small sales that have taken place are an improvement on our last quotations. The "Muskoka" arrived June 6th with 92,230 cases; our stocks now amount to 1,107,738 cases. With Batum a fairly good business has been done, and sales have taken place in good quantities. Stocks now in godowns are 417,000 cases. Langkat seems to have followed the lead of Batum, as a good business has also been done in this, several parcels changing hands. Stock equivalent of 87,400 cases. Quotations: Devoe's, 1.68 taels per case; Batum, Anchor Chop, 1.51 taels per case, and Horse Chop, 1.50 taels per case; Batum, bulk oil, 1.43½ taels clean per two tins; Langkat, 1.43 taels per two tins; Langkat at the tanks, 0.11¾ taels per gallon.

SLATE TRADE REVIEW.

New York. July 28.

The trade continues excellent. The market is very firm and orders are coming in faster than quarrymen can attend to them. Some sizes are reported very scarce and hard to get. This is particularly true of, it is said, sea green slate. The stocks at quarries are pretty well used up. Pennsylvania quarries are troubled more or less by the shortage of labor, due to the great demand for workmen from ore banks, mines and industrial establishments in other parts of the state and in the West. The activity of building in all parts of the country, and the general tendency to a more solid style of construction has had a very favorable effect on the slate business. The same causes have made the market for mill stock active. In school slates and blackboards there is little change.

The Bangor and Slatington districts in Pennsylvania are the most active at present, though the Vermont quarries report a fair share of new business.

Export trade is only moderatly active, though a number of shipments are being made. The freight rate question is still the most important in this branch of the business.

Freight rates are about as follows from New York: To London, 12s. 6d. ($3) or about 86c. per square roofing slate; Liverpool, 12s. 6d.; Manchester, Bristol, Leith and Glasgow, 15s. ($3.60), or $1 per square; Hamburg, 12s. 6d. prompt, and 15s. near future; Copenhagen, 16s. 3d. ($3.90), or $1.11 per square; Newcastle and Hull, 17s. 6d. ($4.08), or $1.47 per square; Denmark, Stettin, 17s. 6d., all with a 5% primage per ton weight. To Bremen the rate is 15s. net ($3.60), or $1 per square. To Sydney, New South Wales, 15s. net is asked for roofing slate in cases or in bulk.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries is given below:

Prices of Roofing Slate.

Size, inches	Monson or Br'n ville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.10	3.50	3.00	3.35	3 40	4.85	3.00	.....	.....
24 x 12	6.60	3.50	3.00	3.35	3.40	5.00	3.00	3.75	.....
22 x 12	6.60	3.50	3.25	3.50	..	5.00	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.50	3 40	5.00	3.00	4.00	.....
20 x 12	6 90	3.75	.....	3 50	3 40	5.00	3.00	3.75	.....
20 x 11	6.80	.....	.....	4 00	..	5.00	3.00	....	.....
20 x 10	6 80	4.50	3.50	4.00	3.75	5.10	3.25	4 25	9@10¼
18 x 12	6.80	3.75	.....	3.50	....	...	3.60	3.50	.....
18 x 11	7.00	....	....	....	..	...	3.00	3.75	.....
18 x 10	7.20	4.50	3.50	4 00	3.75	..	3.00	4.00	9@10¼
18 x 9	7.10	4.50	3.50	4.00	3.75	5.10	3 00	4 25	9@10½
16 x 12	6.80	3.75	..	3.50	..	....	2.85	3.50	.....
16 x 10	7.10	4.25	3.50	4.00	3.75	5.00	2.85	4.00	9@10½
16 x 9	7.00	4.25	.....	4.00	3.75	5.10	2.85	4.25	9@10½
16 x 8	7.20	4 50	3.50	4.00	3.75	5.10	2.85	4 25	9@10½
14 x 10	6 60	3.75	3.25	3.35	....	5 00	2.75	3.75	9@10½
14 x 9	6.50	....	....	....	....	....	2.75	3 75	9@10½
14 x 8	6 60	3.75	3 25	3.35	3.40	4.85	2.75	4.25	9@10½
14 x 7	6.40	3.75	3 25	3 35	3.40	4.85	2.50	4.25	9@10½
12 x 10	5.80	....	....	....	.....	...	2.50	3.25	.....
12 x 9	5.60	....	....	....	.....	...	2.50	3 25	.....
12 x 8	5.50	3.50	.....	3.35	3.25	4 60	2.50	3.50	8¼@9
12 x 7	5.00	3.25	.....	3.35	3.25	4.60	2.50	3.50	8¼@9
12 x 6	4.80	3 25	..	3 35	3.25	4.50	.....	3 50	8¼@8¼

A square of slate is 100 sq ft. as laid on the roof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Bangor are 50c. extra when full 3-16 in. thick, and Peach Bottom 25c. extra per square. Intermediate sea green, $2.25@2.45 per square, according to size.

CHEMICALS AND MINERALS

(For further prices of chemicals, minerals and rare elements, see page 150.)

New York. July 28.

The market generally feels the influence of midsummer weather and no more new business is being transacted than is absolutely necessary. This is the vacation season, when nobody is anxious to work, and trade is quiet accordingly, though unusually brisk for the season.

Heavy Chemicals.—Buying is limited for immediate consumption, but for next year's delivery orders are still booked for domestic caustic soda on basis of $1.45 per 100 lbs. f. o. b. works. Bleaching powder, owing to the warm weather, is in request. Chlorate of potash is still easy.

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York	In New York.
Alkali, in bags.	67½@70c.	80@85c.	80@85c.
Caustic Soda, high test	$1.55@$1.65	$1.60@$1.65	$1.60@$1.70
98% powd.	.....	2 75@ 3.00	.....
60@74 % powd.	.....	2. 2½@ 2.25	.....
Sal Soda	70c.	.....	62½@70
" conc.	1.00@1.35	.....	1.60@1.65
Bicarb Soda.	1.12½@1.25	.....	2.12½@2.25
" extra	3.25@3.50	.....	
Bleach. Pdr., Eng. prime.	.....	.....	1.42½@1.50
other br'nds.	.....	.....	1.25@1.35
Chl. Pot cryst	.....	9.25@9.50	9.50@9.75
" powd.	.....	9.75@10 00	10.00@10.25

Prices are generally for large quantities, and in many cases depend upon make, test and package.

Acids.—The increased prices of sulphuric acid for export are held; otherwise there is no change. There is talk of raising prices again, but nothing definite can be said.

Acetic and muriatic acids show a good demand, while blue vitriol has eased off in consequence of further speculative offerings.

Quotations are in large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, com. No 8.	$1.50	Nitric, 38°	$3.75@ 3.80
Blue Vitriol, best	5.25	Nitric, 40°	4.0 @ 4.05
Chamber, 50°, ton.	11.50@12.00	Nitric, 42°	4.62@ 4.65
Muriatic, 18°.	1.10@ 1.15	Oxalic	6.25
Muriatic, 20°.	1.20@ 1.25	Sulphuric, 66°	1.10@ 1.15
Muriatic, 22°.	1.35@ 1.40	Sulphurous, 100%	
Nitric, 36°.	3.50@ 3.55	SO_3 anhydrous.	8.00@10.00

Brimstone.—Demand continues good and prices unchanged. Spot best unmixed seconds can be had at $21.75@$22 per ton, and shipments at $20.50@$20.75, while thirds are quoted from $1.75@$2 per ton less.

Pyrites.—The supply is not much better, and is not easy to secure large lots, most of the material to arrive being already contracted for. This is also the case with the output of domestic mines. We quote American pyrites as follows: Mineral City, Va., lump ores, $3.25 per long ton (basis 42%), and fines, $3; Charlemont, Mass., lump, $5.50, and fines, $4.75; Pilley's Island, lump, $6.50, and fine, $4.50 per long ton, delivered in New York. Spanish pyrites, 12@14c. per unit, according to percentage of sulphur contents, delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46% to 51% sulphur, the American from 42% to 44%, and Pilley's Island, N. F., 50%.

Fertilizing Chemicals.—Demand is uninteresting and prices soft, but gas sulphate of ammonia is high.

Articles.	F. o. b. Wks.	In N. Y.
Potash, muriate, 80@85%	100 lbs.	$1.78
" " 95%	"	1.81
" sulphate, 90%	"	1 93¾
" 90%	"	2.10½
" d'ble m're salt, 48@53%	100 lbs.	66c.
" " " 30%	"	89c.
" kainit, 12.4%.	long ton.	8.70@8 95
" sylvanit..	per unit.	37@38c.
Sulph. Am., gas (25%)	100 lbs.	3 12½@3.20
" " bone	"	2.90@2.95
Blood, dried, h-gr. Chi.	per unit	$1.77½@1.80
" " N. Y.,	"	1 82½@1.85
Azotine	"	1.85@ 1.95
Bone black, diss., 17@18%	ton	16.00@16.50
Fish scrap, acid	"	12 50
" " dried	"	21 50
Tankage h. gr., Chicago	"	21.00
" concentrated	unit.	1.90@1.95
" bone.	ton.	20.00@21.00
Bone, ground	"	23.50@25 00

The quotations on potash are on the basis of foreign invoice weights, tares and analysis, in quantities of not less than 500 tons bulk salts or 50 tons concentrated salts.

Nitrate of Soda.—We still have talk of higher prices, but dealers continue to take orders at $1.57½@$1.62½ per 100 lbs., while the spot stock is offering at $1.60@$1.62½, and one or two large sellers ask $1.65 per 100 lbs.

Phosphates.—Export demand for Florida high grade stock continues strong, and no stocks are accumulating abroad. It is estimated that the August shipments will not be far from 50,000 tons. No Florida land pebble is offering, as miners are under contract; hence quotations are nominal. In Tennessee fields increased operations are noted, especially among exporters. In South Carolina a like conditions exists.

Latest quotations for American phosphates, delivered c. i. f. United Kingdom or North Sea ports, are as follows, per unit: Florida, high-grade rock, 77@80%, 9¼d., all positions (about $14 per long ton); Florida land pebbles, 68@73%, 8d. (about $11.20 per ton); Florida Peace River, 58@63%, 7½d. ($9 per ton); Tennessee, 78@80%, 8d. ($12.64 per ton), while Algerian, 63@70%, is quoted 7¼d. ($9.38 per ton), and 58@63%, 6¾d. ($7.80 per long ton).

We quote: Florida high grade, 75@80% rock, $10 per long ton f. o. b. Fernandina. The freight rate to New York is about $2 per ton. Florida land pebble, 68@73%, $7@$7.50 per ton, delivered in New York. Florida Peace River rock, 58@63%, $4.50 per ton f. o. b. Punta Gorda. South Carolina, hot-air dried, $4.50 per ton f. o. b. Fetteressa, S. C. Tennessee phosphate rock, 75% av., $3.50@$4 f. o. b. mines for export, guaranteed 78% bone phosphate of lime and 3@4% iron and alumina (ex-vessel New York, $9@$10), and $3@$3.50 for domestic brown, and $1.90@$2 f. o. b. for blue or Hickman County rock. The difference in the price of this phosphate and Florida high grade is owing to the higher percentage of iron and alumina in the Tennessee rock. Concentrated phosphates, 13@15% av., P_2O_5 60@62½c. per unit at sellers' works. Acid phosphates, 60c. per unit at sellers' works in bulk.

Liverpool. July 12.

(Special Report of Joseph P. Brunner & Co.)

There is no special feature to report in the position of heavy chemicals, but the market is firm and for some lines prices are inclined to stiffen. The following are particulars of exports of alkali and bleach for the month of June as per Board of Trade returns recently issued:

	Alkali, cwts.	Bleaching powder, cwts.
Total exports for all quarters	314,645	112,607
Exports to United States alone	36,566	73,152

As compared with June, 1898, the total exports of alkali show an increase of nearly 13% and bleaching powder about 3¼%, which is satisfactory. In alkali, shipments to Germany, France and the United States have decreased, but exports to all other markets have increased. Although the total shipments of bleach are heavier than for same month of last year, the exports to the United States alone are about 4% lighter, which decrease is not to be wondered at, seeing the very heavy shipments during the first five months of this year. Soda ash is in demand and rather scarce for early delivery. We quote maximum range for tierces about as follows: Leblanc ash, 48%, £4 5s.@£4 10s.; 58%, £4 5s.@£4 15s. per ton net, cash; ammonia ash, 48%, £4@£4 5s.; 58%, £4 5s.@£4 10s. per ton net, cash; bags are 5s. per ton under price for tierces. Soda crystals are in good request and barrels are generally quoted at £2 17s. 6d. per ton, less 5%, with allowance of 7s. per ton if taken in bags. Caustic soda is scarce and has inclined to stiffen. We quote spot values as follows: 60%, £6; 70%, £7; 74%, £7 10s.; 76%, £7 15s.@£7 17s. 6d. per ton, net cash. Bleaching powder is quiet, and £4 15s. per ton is about nearest spot value for hardwood packages.

Chlorate of potash is selling at about 3½@3⅝d. per lb. for crystals, and 3⅝@3¾d. per lb. for powdered, as to quantity. Trade, however, is not very brisk.

Bicarb. soda is moving off at varying prices, according to market, ranging from £6 15s. per ton, less 2% for the finest quality in 1 cwt. kegs, with usual alloyances for larger packages.

Sulphate of ammonia is rather languid, and nearest value of good gray 24@25% in double bags f. o. b. here may be called about £10 7s. 6d. @£10 10s. per ton, less 2½%.

Nitrate of soda is in retail demand and slightly lower at £7 17s. 6d@£8 per ton, less 2½% for double bags f. o. b. here as to quantity and quality.

Valparaiso, Chile. June 3.

(Special Report of Jackson Bros.)

Nitrate of Soda.—The market was comparatively quiet until May 27th, when, owing to rumors of new proposals for a combination, a brisk demand set in, especially for season deliveries, prices advancing from 4s. 10d.@4s. 11½d. per cwt., steamer terms, for August-December shipments. June-July nitrate has been very scarce, up to 4s. 10d. being paid alongside vessel. The refined quality is also difficult to get, several parcels of July-August being placed at 5s. 1d. for the United States. The project of the new combination is to limit the exports of 1899 to 29,000,000 Spanish quintals, but only allowing the shipment of the production up to October 10th, that made from this latter date to December 31st to be shipped in the following proportion: 40% in January, 1900; 40% in February, and 20% in March. The exports for May amounted to 1,615,000 qtls., making a total of 10,537,000 qtls. for the first five months, as against 8,625,000 qtls. in 1898. The market closes quieter, the European market not

having responded to the rise on this side, and we quote: 95%, June, 4s. 9d.; July-August, 4s. 10d.; August-December, 4s. 10½d., and 96%, 5s. 1½d., all ordinary terms, sellers. The price of 4s. 9d. with 27s. 6d. all round freight stands in 6s. 7¾d. per cwt. net, cost and freight, without purchasing commission. Sales reported during the past fortnight amount to 1,077,600 qtls., of which only 162,000 were of refined nitrate. Resales in the same time were 343,000 qtls., of which 33,000 qtls. were refined.

IRON MARKET REVIEW.

NEW YORK, July 28, 1899.

Pig Iron Production and Furnaces in Blast

Fuel used	Week ending July 29, 1898.		Week ending July 28, 1899.		From Jan., '98.	From Jan., '99.
	F'ces.	Tons.	F'ces.	Tons.	Tons.	Tons
An' racite	24	19,229	40	35,350	712,125	823,427
Coke.....	142	224,200	164	223,150	6,016,291	6,371,255
Charcoal.	19	6,657	20	6,250	173,631	152,485
Totals..	185	248,086	224	264,750	6,902,047	7,348,167

The iron market has been rather quiet during the week, with no especial change from the previous week. Prices continue very high, Bessemer pig having sold at $21 in Pittsburg, with other products in proportion. For foundry iron there has also been a good demand, and prices are high. Southern iron has been advanced from 25 to 50c. a ton, and the present rates are rather above the parity of Northern makes.

The statement for the half year ending June 30th, made by the American Iron and Steel Association, shows that our estimated figures have followed the production very closely. The increase in output of pig iron is less than some parties have insisted must be the case. The gain in the current half year, however, will be very much larger, as the list of furnaces now going into blast shows.

One of the curiosities of the present situation is that steel billets are selling at a higher price than steel rails. This has never been the case before, and seems a reversal of normal conditions.

A strike of the ore-handlers at the Lake Erie docks seems probable. If it takes place deliveries of Lake ore may be seriously delayed, and furnaces embarrassed.

The labor situation in general is rather an uneasy one. With the present level of prices and the knowledge that all kinds of products are selling at double the quotations of six months ago, it is not at all singular that workmen should consider the small increases in wages which they have received an inadequate share of the advance. We hear of demands for further increases from all quarters, and trouble is anticipated.

The expected begins to happen, and we hear of several cases of plants preparing to start up in competition with the American Steel and Wire Company. Some of these probably expect to be bought off: but that is an expensive process and a never-ending one, when it is once started.

Notes of the Week.

The Cleveland "Iron Trade Review" says: "On Friday of this week papers will be passed by which the National Steel Company acquires the well-known Chapin and Winthrop Mines and the steel fleets of the Mutual Tranportation Company and the Menominee Transit Company. All these properties are familiarly known in the trade as allied to the Hanna interests, and L. C. Hanna, who is the active head of M. A. Hanna & Co., has represented in the negotiations the various owners of both mining and vessel properties. On the part of the National Steel Company the deal has been conducted by President W. E. Reis. The National Steel Company has acquired almost all the stock of the following companies: Chapin Mining Company, holding a 20-year lease, dating from 1894, of the famous Chapin Mine of Iron Mountain, Mich., Menominee Range; Winthrop Iron Company, owning the fee of the Winthrop Mine in the Ishpeming District, Marquette Range. The company has in fee 160 acres of mineral lands and, in addition, 80 acres of surface lands. The Mutual Transportation Company of Cleveland, owning the steel steamers 'Coralia,' 'Corsica,' 'Corona,' and 'Camori'; also an interest in the docks at Ashtabula, Ohio. The Menominee Transit Company of Cleveland, owning the steel steamers 'Grecian,' 'Roman,' 'German,' 'Saxon,' and 'Briton.' These vessels have an aggregate capacity of 1,000,000 gross tons of ore per annum.

Birmingham, Ala. July 24.

(From Our Special Correspondent.)

The quotations of pig iron in the Birmingham district have been looking up in the last week, and there has been an advance of 25@50c. per ton, making No. 1 foundry iron $16. The furnacemen when spoken to on the subject state that these prices are only for immediate delivery on small lots in Birmingham and are not the regular quotations. The local purchasers, on the other hand, state that they cannot get the product unless they give these advanced prices, and therefore believe that the figures paid are asked of others. The demand for the product has been persistent, and it was believed some days since that prices would look upward. The advance therefore has not been unexpected.

The indications all look bright for the future, and it is believed that the activity that began several months since will continue for some time. The output in the Birmingham district and in the State is keeping up wonderfully well. During this week the Vanderbilt furnace will go into blast, adding from 100 to 125 tons a day more to the amount produced in the district. The furnace is now being dried out, and will be ready for the torch toward the end of the week. The iron to be produced here, however, has been sold ahead for some months.

The Tennessee Coal, Iron and Railroad Company is making extensive repairs about the fourth furnace at Ensley and is building a new one there. The blowing power at this plant will be enlarged so that all of the five furnaces can be kept in blast at all times. There is some improvement being made on the machinery also at these furnaces. The same company is repairing furnaces in the city and at Oxmoor and before many days will be ready to blow one of them in.

The following are the quotations given for the product: No. 1 foundry, $15@$16; No. 2 foundry, $14.50@$15; No. 3 foundry, $14@$14.50; No. 4 foundry, $13.50; gray forge, $13; No. 1 soft, $16; No. 2 soft, $15.

The shipments of pig iron from the district continue as brisk as they have been. There is more iron being sent away from the district than is being made, and the yards are beginning to show the inroads being made on them.

The finished iron demand continues active. The rolling mills are working pretty steadily, and are having large outputs. There is a larger shipment than production, and every effort is being made to fill the orders as promptly as possible. The Birmingham Rolling Mill will within the next 6 or 7 days have every one of the departments in full blast; at present one or two of the departments are under repair.

There is much work going on in the foundries and machine shops in the Birmingham District.

The Birmingham Machine and Foundry Company, whose plant was destroyed by fire a month ago at East Birmingham, will protect all contracts that were on hand at the time of the conflagration.

At Ensley there is much work being done toward completing the big steel mill and steel wire and rod mill. No time is being lost to get the plants up and in operation. It is expected that some of the contractors who have delayed matters will now rush their work in, and nothing will be left undone to have the plants in operation by October.

The pipe works at Bessemer, both the big pipe works and the soil pipe works, are doing considerable work. Work will soon begin on the erection of another plant at Bessemer for the manufacture of soil pipe. The new concern will not be in the combine recently formed. Reports from the car works in Gadsden and Anniston, Ala., and Lenoir City, Tenn., are to the effect that there are many orders on hand and much of the product of this district is being used.

Buffalo, N. Y. July 25

(Special Report of Rogers, Brown & Co.)

There is practically no change to be noted in the market conditions this week from those of last week. A fair volume of business for the first half of next year is being taken on by furnaces. Prices are very firm, as quoted below, for cash f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $21@$22; No. 2 strong foundry coke iron, Lake Superior ore, $20@$21; Ohio strong softener No. 1, $20.50@$21; Ohio strong softener No. 2, $20@$20.50; Jackson County silvery No. 1, $27; Southern soft No. 1, $20.50; Southern soft No. 2, $20; Lake Superior charcoal, $22; coke malleable, $21.

Cleveland, O. July 26.

(From Our Special Correspondent.)

Iron Ore.—While it is probably not safe to say that no ores were sold during the past week, it can safely be asserted that most companies have sold nothing. Some companies may have closed a few transactions, but the market as a whole continues quiet. There is nevertheless a firm market, for whenever any of the companies may feel they can safely offer to make more sales they will undoubtedly do so at a little more money than was realized in the earlier sales of the week. A very active shipment is still being made of ores from the upper lakes. Rates are about the same as reported a week ago, 74c. per ton from Escanaba, 80c. from Marquette and 90c. from the head of Lake Superior.

The quotations are as follows: Specular and magnetic ores, Bessemer quality, $4@$4.25; specular and magnetic ores, non-Bessemer, $3.25@$3.75; red hematite ores, Bessemer quality, $3.75@$4.25; red hematite ores, non-Bessemer quality, $2.75@$3.25.

Pig Iron.—The pig iron market continues very strong and very active. Transactions were very fair this week along the line of foundry iron. Very little business was done in Bessemer, or other kinds of iron. Though the market is altogether very firm, no higher prices were reached than were reported last week. The tendency, however, continues upward. The following are the quotations for pig iron f. o. b. Cleveland: Lake Superior charcoal, $22.50; Bessemer, $20; No. 1 foundry, $20; No. 2 foundry, $19.50; No. 1 Ohio Scotch, $20; No. 2, $19.50; gray forge, $18.

Philadelphia. July 26.

(From Our Special Correspondent.)

Pig Iron.—The eastern Pennsylvania iron and steel market has enjoyed another relatively quiet week. The situation on the surface is just what it was a week ago. Careful hunting for points and happenings have brought a poor crop. Many people in authority are absent from the city. Furnace people do not want to do business. Quotations are not higher unless $21.50 for No. 1 X foundry is higher. No. 2 X foundry is $20.50; No. 3, $19.75; gray forge, $18@$18.50. There are a number of consumers quite low in stocks. What they may decide to do next month is uncertain. Some hesitancy is shown by buyers, and this pleases makers, because they see so many reasons for iron advancing this fall. The market is adjusting itself as fast as possible.

Billets.—Quotations are nominally $36.50, but in the absence of business it is impossible to give an intelligent account of the market.

Merchant Bars.—Store-keepers report this week an active demand for material in small lots. There are many small purchasers in the market, and prices are close to 2c. for common and from 2@2.25c. for small lots of refined, tested and steel bars.

Sheets.—No. 28 is 3.80@4c., and there is enough business in sight to make all buyers anxious to get as much material in hand as possible. Corrugated material is very active for late delivery. Architectural iron buyers are unable to get promised deliveries in many cases.

Skelp.—The inquiries for skelp indicate a season of great activity this fall.

Pipes and Tubes.—No further advance has been announced, but the highest previously announced quotations prevail. Material is very hard to get, and delays in tube work is the cause of frequent complaint.

Merchant Steel.—Unless buyers are very urgent they find it no easy matter to get mills to agree to definite deliveries before Oct. 1st. Those who have a little capacity to spare are anxious to keep it.

Plate and Tank.—Those who use boiler plate are the worst off because of the difficulty of getting mills to look at little orders. There are large orders for material awaiting acceptance, and promises are out. Small buyers will have a time of it for the next few months. Tank steel is quoted at 2.75c.; shell, 2.80c.; flange, 2.90c.; firebox, 3c.

Structural Material.—Angles sold yesterday at 2.25c., special lots. Tees average 2.25c.; deck beams, 2.45c.; angles, 2.20c.; channels, 2.15@2.25c. The inquiry for material continues from all parts of the country and for lots big and little. The bridge-builders have lately secured some sort of understanding with material makers which has taken them off the anxious list.

Steel Rails.—Steel rails are quoted at $28@$29, and light sections at $32@$36. Small orders are being sent to mills. An order for 2,500 tons 80-lb. sections was placed with the Lackawanna Iron and Steel Company at Scranton.

Old Rails.—Old iron rails are $20@$21. Old steel rails, $16@$17. There are plenty anxious buyers.

Scrap.—Iron axles sell when they can be procured at $24@$25. Steel axles, $17; old car wheels, $17; heavy steel scrap, $15.50; machinery cast, $14; cast borings, $11.

Pittsburg. July 26.

(From Our Special Correspondent.)

Notwithstanding the fact that July is usually a dull month, there has been no falling off in the production of iron and steel, and in some lines the output has been increased. The interuption to production due to the customary shut down of plants for repairs has been a minimum. The production has not yet caught up to the consumption, and deliveries are nearly as hard to obtain as last week. There has been no material change in prices, and if the demand is not lessened it is certain that during the fall months rates will far surpass the present level. In any event, it is not likely that prices will recede before the end of the year. Local iron and steel manufacturers predict that the average of prices during next year will be about the present range.

The production of pig iron has been curtailed owing to the inability to operate three of the six Sharpsville furnaces where the labor trouble prevented the operation during the first two weeks of this month. The furnaces had been

hastily banked when the strike began on July 1st and did not retain the heat, so that three are being shoveled out. About four weeks' time will be lost. The total loss of production on account of the labor trouble at Sharpsville will amount to about 30,000 tons. Bessemer iron is very scarce, and but little can be obtained for delivery during the balance of the year. About 10,000 tons o alley iron have been sold during the past week compared with 20,000 tons the week previous, most of which brought $20 at the urnaces, although some lots have sold as high as $20.25.

All the tin-plate mills are being operated to their fullest capacity. The American Tin-Plate Company has advanced prices to 4.37½c. for a box of 100 lb. coke plates, other grades being advanced in the same proportion. There is a fair demand for coke plates from canners. In roofing plates the demand is good and difficulty is being experienced frequently in securing plates for building purposes. Since the advance in tin-plates there has been a further advance in pig tin, but there is not likely to be a further advance in coke plates, at least for the present.

Two new foundries are to be erected in Pittsburg, one by the North Pittsburg Foundry and Machine Company, and the other by the Sterritt-Thomas Foundry Company. Both are new concerns. The output will include all kinds of foundry and machine work, besides specialties in steel and iron.

Pig Iron.—The Pittsburg market for Bessemer pig is $20.75@$21. In foundry iron there has been a moderate demand, but iron is very scarce, and prices have been forced upward. No. 2 can scarcely be obtained at $19, Pittsburg, and as high as $20 is reported to have been paid. In gray forge there is also a scarcity, and sales have been made at $17.40@$17.65, Pittsburg.

Steel.—The market is quiet and there is scarcely any inquiry for billets. The quotations remain as they have been for some time, $33.50@$34. Slabs are higher than billets and $34@$35 has been paid. Some sheet bars have been sold at $35. There is practically a famine in open-hearth steel, and sales have been made at prices ranging $42@$45 for ordinary open-hearth.

Sheets.—The mills are all in operation, but there is no change in prices. Deliveries are still hard to secure, although mills are getting deliveries of sheet-bars about as well as formerly, and in some cases better. In galvanized iron prices are quoted at 70 and 5% off with a 15c. freight allowance. All the mills are well filled with orders while some are out of the market for the present.

Ferro-manganese.—Scarce; 80% is still quoted at $80 and upwards.

Structural Material.—There is no change in prices and the mills are all busy. Beams and channels up to 15-in. are quoted at 2c.; 18, 20 and 24-in. 2.10c.; universal mill plates, 2.25c.

Wire.—The advance in prices did not have any effect on the market and the demand continues to be heavy.

New York. July 28.

The volume of local trade shows no especial change from last week. In foreign trade we note an order for 10,000 ft. of iron pipe and some good-sized orders for railroad material from Brazil; a shipment of 10 carloads of agricultural machinery and $20,000 worth of machine tools to Germany and a shipment of $50,000 worth of iron pipe to South Africa.

Pig Iron.—Buying continues largely of a hand-to-mouth order, with prices very firm. We quote, for Northern brands at tidewater: No. 1 X foundry, $21; No. 2, $20. Southern brands, New York delivery: No. 1 foundry, $21; No. 2 foundry, $20; No. 1 soft, $20; No. 2 soft, $19; No. 3, $18.

Warrant Irons keep going higher. Alabama No. 2 is $15.50; No. 3, $13.50; No. 4 and gray forge are steady at $12.75.

Bar Iron.—The market is good and prices are firm. We quote refined iron 2.15c. in large lots on dock, and common, 2c.

Plate.—The local demand continues moderate, with prices higher. We quote large lots at tidewater: Tank, ¼-in. and heavier, 2.75@2.85c.; tank, 3-16 in., 2.85@2.95c.; shell, 2.85@2.95c.; flange, 2.95@3c.; marine, 3@3.10c.; firebox, 3.10@3.20c.; universals, 2.70c. Higher prices will be asked for pressing deliveries.

Steel Rails and Rail Fastenings.—The quotation for rails remains nominally $29 for standard sections f. o. b. mills. Small rails are nominally quoted: 12-lb., $34; 16-lb., $34; 20-lb., $34; 30-lb., $32; 40-lb. to standard, $30, with the usual advance for small orders. Angle bars are 1.85c.; spikes, 1.95c., and bolts, 2.25c.

Structural Material.—The demand for all kinds of structural material remains good and prices are very firm. We quote for large lots at tide-water: Beams, 15-in., 2.25c.; tees, 2.25@2.35c.; channels, 2.25c.; angles, 2.20@2.30c.

Nails.—Demand is fair. The increase in price does not seem to check buying. Wire nails are $2.75@$2.80 for large lots on dock. Cut nails are $2.45@$2.50.

METAL MARKET.

NEW YORK, July 28, 1899.

Gold and Silver.

Gold and Silver Exports and Imports

At all United States ports in June and year.

	June.		Year.	
	1898.	1899.	1898.	1899.
GOLD.				
Exports	$375,529	$20,908,327	$6,226,192	$27,203,119
Imports	3,330,612	3,105,686	92,372,070	23,050,019
Excess	I. $2,955,083	E. $17,802 641	I. $86,145,888	E. $4,153,100
SILVER.				
Exports	4,166 €50	3,843,099	24,607,997	27,569,918
Imports	2,028,803	1,917,215	12,893,039	13,921,403
Excess	E. $2,137,847	E. $1,925,884	E. $11,714,958	E. $13,648,515

This statement includes the exports and imports at all United States ports, the figures being furnished by the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending July 26th, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period.	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$110,151	$47.448	$429.203	$109,623	E. $382,283
1899..	11,535,118	7,419,174	15,921,220	1,983,075	E. 18,054,089
1898..	4,458,463	69,024,674	19,347,111	1,897,575	I. 47,026,675
1897..	27,287,216	2,147,742	29,830,187	1,196,078	E. 53,773,582
1896..	40,327,798	17,494,397	22,114,713	1,388,102	E. 43,560,012

Gold imports were chiefly from the West Indies; silver from South America. Gold exports were scattered to various points; silver exports were to London.

The United States Assay Office in New York reports the total receipts of silver at 67,000 oz. for the week.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars	$ .48	$ 49
Peruvian soles and Chilean pesos	.43	.46
Victoria sovereigns	4.86	4.89
Twenty francs	3.88	3.92
Twenty marks	4.78	4.83
Spanish 25 pesetas	4.78	4.84

Average Prices of Silver per oz. Troy.

Month.	1899.		1898.		1897.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January	27.42	59.36	26.29	56.77	29.74	64.79
February	27.44	59.42	25.89	56.07	29.68	64.67
March	27.48	59.64	25.47	54.90	28.96	63 06
April	27 65	60.10	25.95	56.02	28.36	61.85
May	28.15	61.23	26.31	56.98	27.86	60.42
June	27.77	60.43	27.09	58.61	27.58	60.10
July			27.32	59.06	27.36	59.61
August			27.48	59.54	24.93	54.19
September			28.05	60.68	25 66	55.74
October			27.90	60.42	26.77	57.57
November			27.93	60.60	26 87	57.93
December			27.45	59.42	26.83	58.01
Year			26.76	58.26	27.55	59.79

The New York prices are per fine ounce; the London quotation is per standard ounce, 925 fine.

Average Prices of Metals per lb., New York

Month.	COPPER.		TIN.		LEAD.		SPELTER.	
	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.
Jan	14.75	10.99	22.48	13.87	4.18	3.65	5.34	3.96
Feb	18.00	11.28	24.20	14 08	4.49	3.71	6.28	4.04
March	17.54	11.98	23.82	14.38	4.37	3.72	6.31	4.25
April	18.43	12.14	24.98	14.60	4.31	3.63	6.67	4.26
May	18.25	12 00	25.76	14.52	4.44	3.64	6.88	4.27
June	17.93	11.89	25.85	15.22	4.42½	3.82	5.98	4.77
July		11.63		15.60		3.95		4.66
August		11 89		16.23		4.00		4.58
Sept		12.31		16.03		3.99		4.67
October		12.41		17.42		3.78		4.98
Nov		12-86		18.20		3.70		5.29
Dec		12.93		18.30		3.76		5.10
Year		12.03		15 70		3.78		4.57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.; in February it was 17.02c.; in March, 16.35c.; in April, 17.13c; in May, 17. 20 c.; in June, 16.89c.

Financial Notes of the Week.

The silver market has been steady but declining a fraction upon the completion of the French tender for 20,000 kilos, closing firm at 27 11-16d.

Business generally continues active for midsummer. There is no cessation in manufacturing work, and the demand for goods of all kinds continues larger. Railroad traffic reports are very favorable also. There has been some reaction in the speculative markets, but it has not affected general trade.

Imports and Exports of Metals.

Port.	Week, July 26.		Year, 1899.	
	Expts.	Impts.	Expts.	Impts.
***New York.**				
Aluminum.....long tons	25	2	302	12
Antimony ore... " "	.....	‡49	.....	904
" regulus.. " "	.....	.....	.....	590
Brass ..... " "	.....	.....	57	...
Chrome ore..... " "	.....	.....	.....	1,988
Copper, fine .... " "	953	656	30,840	13,171
" matte.. " "	.....	120	556	683
" ore..... " "	.....	.....	.....	10,399
" ash..... " "	.....	4	20	156
" sulphate " "	.....	.....	11,403	.....
" other... " "	.....	.....	.....	30
Cop-nickel matte " "	.....	.....	.....	53
Ferro-mangan'se " "	.....	15	.....	136
Iron ore..... " "	.....	.....	.....	50
" pig, bar, rod " "	134	172	3,750	1,404
" pipe..... " "	530	.....	19,368	.....
" plates, sheets " "	.....	.....	712	15
" other..... " "	.....	.....	1,115	.....
Lead..... " "	1,050	1,600	31,988	29,962
Manganese, ore. " "	.....	10	.....	3.291
Metals, old scrap " "	474	43	2,790	1,752
" Composition.. " "	.....	.....	4,857	71
Nails..... " "	258	.....	11,286	.....
Nickel ..... " "	70	.....	1,142	723
" Ore ..... " "	.....	.....	.....	4,020
§Railr'd material " "	32	.....	5,853	2,263
Rails, old..... " "	.....	.....	12,215	.....
Spiegeleisen..... " "	.....	50	.....	342
Steel bars, plates " "	24	148	30,400	9,741
" rails..... " "	.....	.....	38,863	155
" hoops..... " "	.....	.....	486	.....
" wire..... " "	1,238	424	21,506	478
" not speci'd. " "	83	44	9,597	1,862
Tin..... " "	.....	50	.....	15,183
" dross or ashes " "	.....	.....	60	.....
" and black plates " "	.....	‡1,174	.....	20,613
Zinc..... " "	.....	4	272	256
" dross..... " "	15	.....	697	.....
" ashes, skim " "	14	.....	1,571	85
" ore..... " "	1,225	.....	4,231	.....
" oxide..... " "	84	.....	2,432	288
†Baltimore.				
Alumina .... bags	.....	.....	.....	3,479
Antimony regulus...casks	.....	.....	.....	252
Chrome Ore.....long tons	.....	.....	11	.....
Copper, fine..... " "	718	.....	20,471	.....
" matte... " "	.....	.....	.....	.....
" sulphate " "	.....	.....	1,482	.....
" pipe..... " "	.....	.....	100	.....
Ferro-manganese " "	.....	.....	.....	1,737
Ferro-silicon..... " "	.....	.....	184	.....
Iron pig, bar, etc. " "	.....	.....	808	4,014
" ore..... " "	.....	7,130	.....	100,284
" pyrites..... " "	.....	2,850	.....	36,561
" pipe..... " "	53	.....	2,881	.....
Manganese ore.. " "	.....	1,225	.....	21.609
Metals, scrap.... " "	.....	.....	4,413	14
Nails ..... " "	30	.....	485	.....
Pipe, iron & steel " "	.....	.....	3,526	.....
Spiegeleisen..... " "	.....	.....	.....	843
Steel, bars, pl'es.. " "	115	.....	24,923	56
" wire ..... " "	25	.....	621	231
" rails..... " "	806	.....	33,675	.....
not specified.. " "	35	.....	1,874	4
Tin..... " "	.....	.....	563	.....
" dross..... " "	.....	.....	.....	.....
" and blackplates " "	.....	35	.....	1,360
Zinc..... " "	.....	.....	25	5
" dross .. " "	.....	.....	172	.....
" skimmings.. " "	.....	.....	131	.....
" oxide..... " "	.....	.....	.....	.....
***Philadelphia.**				
Antimony.. .....long tons	.....	.....	.....	10
Chrome ore..... " "	.....	‡100	.....	1,620
Copper ore..... " "	.....	.....	.....	26,354
" old..... " "	.....	.....	.....	11
Ferro-manganese " "	.....	50	.....	992
Ferro-silicon..... " "	.....	.....	.....	160
Iron, pig..... " "	.....	.....	.....	675
" ore..... " "	.....	7,700	.....	89,375
" pyrites..... " "	.....	.....	.....	2,150
Manganese ore.. " "	.....	6,950	.....	39,103
Spiegelcisen..... " "	.....	270	.....	1,520
Tin..... " "	.....	.....	.....	700
" andblack plates " "	.....	281	.....	1,228
Zinc dust ..... " "	.....	.....	.....	15
" ore .. " "	.....	.....	3,093	.....

Total United States.§§

Articles.	May.		Jan.—May.	
	Expts.	Impts.	Expts.	Impts.
Antimony.. .... long tons	.....	70	.....	528
" ore.... " "	.....	249	.....	714
Copper fine ..... " "	5,879	2,919	41.230	7,935
" sulphate.. " "	1,412	.....	9,376	...
Iron, pig & bar.. " "	24,589	2,541	132,538	15,671
" ore..... " "	890	37,426	1,481	169,140
" rails ..... " "	49	.....	4,924	.....
Iron& steel plates " "	5,558	162	30,585	537
" " wire " "	12,107	274	47,794	1,177
Steel, billets, rods, etc..... " "	9,201	2,390	51,836	10,931
Steel rails.. ..... " "	22,325	379	93,563	523
Lead, pigs, bars & old ..... " "	71	12	150	139
Lead, ore ..... " "	5,342	8,508	32,967	39,072
Nails, cut..... " "	1,066	.....	4,228	.....
" wire..... " "	2,491	.....	9,875	.....
Tin..... " "	105	2,119	216	15,684
" plates..... " "	9	6,239	166	21,100
Zinc. .... " "	206	183	5,674	497
" ore ..... " "	.....	.....	8,630	...

*New York Metal Exchange returns. †By our Special Correspondent. §Not specified. ‡Week ending July 21st. §§ Monthly returns of the Treasury Department.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1¼c. a lb. on lead in ores; 2½c. per lb. on pigs, bars etc; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c. per lb. in pigs and bars; 2c. on sheets, etc. Copper, tin and platinum are free of duty.

The large demands of business are shown by the fact that there is a shortage of small bills in New York and elsewhere, and the banks are having some difficulty in meeting the demands of customers for such bills, both for local use and for shipment to the interior. This has made necessary the use of some gold and the Sub-Treasury in New York has been paying out a considerable amount in $5 gold pieces; some of the banks also doing the same.

The statement of the United States Treasury on Thursday, July 27th, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date of last week:

	July 27.	July 20.	Changes.
Gold	$246,338,887	$245,021,258	I. $1,317,629
Silver	4,870,652	5,304,922	D. 434,280
Legal tenders	15,123,791	15,062,881	I. 60,910
Treas. notes, etc.	876,549	727,578	I. 148,971
Totals	$267,209,870	$266,116,649	I. $1,093,221

Treasury deposits with national banks amounted to $77,698,239, a decrease of $742,381 during the week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending July 15th, gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898	1899.
Loans and discounts	$549,074,900	$634,945,900	$767,883,600
Deposits	629,525,700	741,328,800	874,882,000
Circulation	13,534,600	14,434,300	13,603,400
Reserve:			
Specie	91,377,900	167,641,500	173,653,800
Legal tenders	111,615,100	60,702,700	57,122,300
Total reserve	$202,993,000	$228,344,200	$230,776,100
Legal requirements	155,631,425	185,332,200	218,470,500
Balance, surplus	$47,361,575	$43,012,000	$12,305,500

Changes for the week this year were increases of $1,356,850 in surplus reserve, and $1,015,300 in legal tenders; decreases of $8,828,600 in loans, $2,664,400 in specie, $12,023,800 in deposits, and $22,600 in circulation.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	1898.		1899.	
Banks.	Gold.	Silver.	Gold.	Silver.
N. Y. Assn.	$167,641,500	.....	$173,653,800	.....
England	181,264,225	.....	164,094,755	.....
France	374,965,090	$247,657,350	382,347,540	$241,079,645
Germany	139,340,000	71,780,000	135,610,000	69,860,000
Aus.-Hun.	174,460,000	63,195,000	181,670,000	63,680,000
Spain	50,790,000	25,360,000	64,800,000	67,695,000
Neth'l'nds	17,680,000	34,655,000	15,820,000	30,450,000
Belgium	14,480,000	7,240,000	14,740,000	7,370,000
Italy	74,555,000	9,660,000	75,535,000	10,310,000
Russia	556,790,000	22,065,000	472,830,000	26,845,000

The returns of the Associated Banks of New York are of date July 22d, and the others are of date July 21st, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold coin only.

Shipments of silver from London to the East for the year up to July 13th, 1899, are reported by Messrs. Pixley & Abell's circular as follows:

	1898.	1899.	Changes.
India	£2,987,440	£2,675,900	D. £311,540
China	354,140	740,353	I. 386,213
The Straits	150,762	41,046	D. 109,716
Totals	£3,492,342	£3,457,299	D. £35,043

Receipts for the week this year were £116,000 from New York, £30,000 from Chile, £11,000 from Australia; a total of £157,000, all bar silver. Shipments were £145,000, bar silver, to India.

Indian exchange has been quieter, but with sufficient demand to take the 50 lakhs of Council bills offered in London at 16d. per rupee.

The foreign merchandise trade of Great Britain for the half-year ending June 30th is given by the Board of Trade returns as follows:

	1898.	1899.
Imports	£235,995,701	£236,736,876
Exports	144,481,741	160,029,211
Excess, imports	£91,513,960	£76,707,665

The increase in imports was 0.3%, and in exports 10.7%. The gold and silver movement for the half-year was as follows:

Gold.	Imports.	Exports.	Excess.
1899	£15,974,418	£11,606,411	Imp. £4,368,007
1898	26,627,557	18,192,083	Imp. 8,435,468
Silver:			
1899	7,157,852	7,980,050	Exp. 822,199
1898	6,038,991	6,837,219	Exp. 798,228

Of the silver received this year £4,668,379 or 65%, came from the United States.

Other Metals.

Daily Prices of Metals in New York.

July.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London. P'nce	Copper. Lake cts. ℔ lb.	Copper. Electrolytic. ℔ lb.	Copper. Lond'n standard £ ℔ ton.	Tin, cts. ℔ lb.	Lead cts. ℔ lb.	Spelter, cts. ℔ lb.
22	4.87⅛	60⅜	27¾	18⅜	17½	.....	30½	4.52½	5.87½
24	4.87¼	60⅜	27¾	18⅜	17½	76 10 0	31	4.55	5.85
25	4.87¼	60⅜	27¾	18½	17.15	77 2 6	31½	4.55	5.80
26	4.87⅛	60¼	27⅛	18½	17.20	77 5 0	32¼	4.55	5.80
27	4.87⅛	60¼	27⅛	18½	17.25	76 10 0	32½	4.55	5.80
28	4.87½	60¼	27⅛	18½	17.25	76 10 0	32½	4.55	5.80

The quotations given for electrolytic copper are for cakes, ingots and wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—There has been quite a large demand for copper for delivery over the next two months, which could hardly be satisfied, as most of the producers are entirely sold up, and in consequence stiff prices had to be paid. There was also somewhat better demand for delivery during the last three months of the year, and various transactions are reported. Lake copper is very firmly held and nothing is obtainable below 18½c. In electrolytic copper a good business has been done at 17⅛@17¼c. for cakes, wirebars and ingots, 16¾@17c. for cathodes. Unless all signs are deceiving, it looks as if the upward movement in prices has not yet reached an end.

The market abroad has not followed the course of ours. A great hesitancy is shown abroad by the consumers to make any larger purchases at present figures, and the transactions reported are all below the parity of the prices which can be realized here. The speculative market opened steady and afterwards advanced 15s., but this was lost yesterday on account of somewhat alarming political news from France, and the market closes at £76 10s.@£76 12s.9d. for spot, and 7s. 6d. higher for three months.

Refined and manufactured sorts we quote: English tough, £80@£80 10s.; best selected, £80 15s.@£81 5s.; strong sheets, £87 10s.@£88; India sheets, £86@£86 10s.; yellow metal, 7d.

Imports of copper into Great Britain for the six months ending June 30th are given by the Board of Trade returns as follows, in long tons:

	1898.	1899.	Changes.
Copper ores	25,675	37,210	I. 11,535
Matte and precipitate	41,215	38,170	D. 3,045
Fine copper	33,919	30,045	D. 3,874

The total this year was equal to 52,851 long tons of fine copper, against 57,094 tons in 1898; a decrease of 4,243 tons, or 7.4%. Of the imports this year, 355 tons of ore, 3,382 tons of matte and 13,547 tons of fine copper—the whole equivalent to 15,274 long tons of fine copper—were from the United States.

Tin.—The excitement continues and the market is simply wild. Prices are again considerably higher than last week; nevertheless a good consumptive demand exists. Spot stocks in New York have become exceedingly light, so that practically a premium can be exacted. It certainly cannot be said that the present values have had any detrimental effect on consumption. Throughout the week the market was necessarily irregular, and we close to-day at about the best, 32½c.

In London, on the 24th inst., the market opened £3 higher, at £140; on the evening of the 25th a further advance of £2, and on the 26th a further £2 was scored, bringing the market up to £144 for spot, £145 for three months. From this a slight reaction took place, on the evening of the 27th, when prices gave way £1, and the market closes at £143 12s.6d.@£143 15s. for spot, and 7s.6d. higher for three months prompt.

Imports of tin into Great Britain for the six months ending June 30th were, in long tons: Straits, 8,546; Australasia, 1,573; other countries, 2,824; total, 12,943 tons, against 11,631 tons, in 1898. The increase was 1,312 tons, or 11.3%, this year.

Lead.—The market is exceedingly firm and stocks are dwindling down everywhere to quite an alarming degree. The strike in Colorado continues and there is no prospect of any settlement immediately. Under the circumstances it is astonishing that the price for lead does not advance, but there are still persistent sellers at 4.55c., New York, at which figure buyers can easily fill their wants.

The foreign market is dull and slightly easier, Spanish lead being quoted at £14 7s. 6d.@£14 10s., and English lead 5s. higher.

Imports of lead into Great Britain for the six months ending June 30th were, in long tons: Spain, 49,906; Australasia, 32,758; United States, 15,844; Germany, 3,550; other countries, 1,796; total, 103,854 tons, against 92,801 tons in 1898, showing an increase of 11,053 tons, or 11.9%. The most notable change was in the imports from Australasia, which showed an increase of 13,623 tons, or 71.7%. The lead credited to the United States is nearly all foreign lead, refined here in bond.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is dull and very quiet. Common metal is selling nominally at 4.52½c.; chemical and desilverized brands for 4.55c.

Spelter has been rather pressed for sale and the few transactions which are reported are at slightly lower figures. Galvanizers have not purchased much of late, and the moment they enter the market it is fair to assume that prices will quickly advance again, as there are hardly any stocks to speak of. We quote 5.80c. New York.

The foreign market remains dull and easy at £25 15s. for good ordinaries, and £26 for specials.

Imports of spelter, or commercial zinc, into Great Britain for the six months ending June 30th, were 36,808 long tons, against 39,893 tons in 1898; a decrease of 3,085 tons, or 8.4%, this year.

Antimony.—There is no change. We have to quote Cookson's at 10½c.; Hallett's and U. S. Star at 10c.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots, 33@36c. per lb., and for smaller orders 35½@38c. London prices are 14@16d. per lb., according to size of order.

Platinum.—Demand is active and prices continue high. For large lots $15.50 per ounce is now quoted in New York, for smaller orders, $16@$17. The London quotation is 62@64s. an ounce.

Quicksilver.—The New York quotation remains unchanged at $45 per flask. The London price is also unchanged at £8 7s. 6d., with the same quotation given from second hands.

Imports of quicksilver into Great Britain for the six months ending June 30th were 3,295,629 lbs., against 3,830,566 lbs. in 1898. Exports were 1,078,774 lbs. (1,263,547 lbs. in 1898), showing 2,216,855 lbs. consumed or added to stocks, against 2,567,019 lbs. last year.

The Minor Metals.—Quotations are given below for New York delivery:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	35@37c.	Bismuth	$1.45@$1.50
No. 2, 90% ingots	31@34c.	Magnesium	$2.75@$3
Rolled sheets	38c. up	Phosphorus	40@50c.
Alum.-bronze	20@23c.	Tungsten	70c.
Nickel-alum	33@39c.	Ferro-tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

LATE NEWS.

A despatch from Reno, Nevada, July 27th, says: "Charles L. Taylor and John M. Fulton, of Reno, yesterday bought from Samuel Hunt, Orin Bennett and S. D. Thacker the antimony mine in Humboldt County, about 70 miles north of Winnemucca. The price paid is not stated. The mine is to be actively worked."

The first conviction in the trials of the members of the Coeur d'Alene Miners' Union who destroyed the Bunker Hill & Sullivan Mill, has been secured. At Wallace, July 27th, in the case of Paul Corcoran, charged with the murder of James Cheyne, in connection with the Wardner affair, the jury arrived at a verdict of guilty of murder in the second degree. Judge Stewart sentenced him to seventeen years in the penitentiary. Within 20 minutes after the jury retired last night 11 of them favored the verdict finally rendered, one man holding out six hours for murder in the first degree.

(From Our Special Correspondent.)

The output of the Cripple Creek, Colorado, mines for the month of June, in spite of the strike in the smelters which occurred about the middle of the month, is very good. The output for the month was 30,861 tons of ore of the value of $1,083,986. Of this 6,400 tons of the value of about $70 per ton—making $448,000—were sent to the smelters and 24,461 tons of the value of $26 per ton—making $635,986—to the mills. Both of the local mills were shut down during a part of the month. The value of the milling ore will probably be more per ton during the month of July, as the mills are now handling a higher grade than formerly.

By Telegraph.

(From Our Special Correspondent.)

Leadville, Colorado, July 27th, 1899.—The Arkansas Valley Smelter has been successfully started. The men here are anxious to return to work, and about 400 have already been given employment. Five furnaces are now operating, and it is expected that the remaining furnaces will be blown in by August 1st. A citizens' committee voluntarily proffered services to the smelter management. This committee, consisting of 1,000 taxpayers of Leadville offered to prevent any interference by outside committees with local workmen; and promised that, should any such committees come to Leadville to agitate, as it was reported they would, they would be given one hour to leave town. The Bimetallic Smelter is now running full blast.

MINING STOCKS.

Complete quotations will be found on pages 146, 147 and 148 of mining stocks listed and dealt in at:

Baltimore,	Philadelphia.	Paris.
Boston.	St. Louis,	Rossland,
Colo. Springs.	Salt Lake.	Shanghai,
Denver.	San Francisco.	Toronto.
New York.	London.	Valparaiso
	Mexico.	

New York. July 28.

Midsummer and holidays have taken what life there was in the mining stock market pretty well out of it, and there is very little doing.

The copper shares have been dull in sympathy with the Boston market. Amalgamated Copper is a little lower, closing to-day at $97@$97.50. Apparently no support is being given the stock here or in Boston.

Nobody believes in Comstocks now, but it is still the custom to deal in them a little, for the sake of old times. Consolidated California & Virginia sold about $2. A new crop of assessments is coming on, making the others rather dull.

Standard Consolidated was called at $2.50. The only other California stock was Brunswick, at 15c.

Of the Utah stocks a little was done in Ontario at $6.50. Horn Silver sold at $1.25.

The Cripple Creek stocks were rather neglected. Portland sold at $1.25 and Isabella at 80c.

The dealings, however, were small and there was nothing in the market to make it interesting. No revival can be looked for before September.

The Royal Salt and Chemical Company, with an authorized capital of $1,500,000, has been incorporated at Trenton, N. J. The company is formed to work salt, coal and other mines, and to manufacture the products of such mines. The incorporators named are: James H. Snow, Gilbert Seaman, Pertez M. Stewart, Ralph Gillette, Thomas E. Adams and Samuel E. Pyle, all of Jersey City.

Boston. July 27.

(From Our Special Correspondent.)

The mining stock market has been quiet through the week, and coppers have been rather neglected. The market can hardly be called weak, since prices were well mantained, but it was narrow and without incident. What speculation there was concerned itself chiefly with the railroad stocks.

Calumet & Hecla brought $820 as the highest; Boston & Montana, $368; Osceola, $88½; Franklin, $19½; Butte, 78⅞; Isle Royale, $47; Utah, $44½, up $½; Parrott, $53; Centennial, $34.

The gold stocks were little in demand, and were hardly mentioned. There was some talk about the quicksilver shares, but very little actual business.

It is vacation time in earnest, and the attempts to renew the boom have been generally given up for the present. They were not wise or well-timed, and some of the long-headed brokers would not join in. Apart from the fact that no one wants to do too much in the summer, a great many people are loaded down with new stocks, and cannot well do more until they see what will be the result of these flyers. It would be a surprise to many if we could get a true statement of the quantity of trash Boston people have bought since last January—largely on faith in big advertisements and bogus guarantees. It will be a long time before this stuff is disposed of.

The Calumet & Hecla report for the year ending April 30th gives little more information than usual, the only addition to previous reports being a statement of the quantity of copper produced. It is also stated that production is being pushed at present, though the directors think this is not good for the mine, and do not propose to keep it up very long.

The Boston papers are still unanimous in their policy of treating Governor Murphy's tilt at Arizona fake companies with "enthusiastic silence." But then Boston has always been an adept at ignoring what might not be agreeable. It is a little hard on their readers, however.

Salt Lake City, July 22.

(From Our Special Correspondent.)

A better tone rules in the Utah mining share market. There has been an appreciable strengthening in prices since last Saturday; the volume of trading continues, light and there is less disposition to realize at a sacrifice. More outside inquiries are being received.

Bullion Beck and Centennial Eureka are firm and unchanged. Chloride Point is in somewhat better form. Daisy was boosted above 30c., and then softened slightly. A choice is given of favorable and doubtful reports from this property. Dalton and Lark shares do not reflect the announcement of important ore uncoverings. Daly is strong and Daly West is once more well above $12. Dexter presents a better front, with two new ore finds of moment reported. Eagle and Blue Bell has made another shipment of good grade ore. The shares show improvement. Four Aces is fairly strong at 21c. bid. Geyser-Marion is about stationary. A dividend is intimated by September.

Grand Central has moved up to $9.20 bid. Homestake droops. Horn silver is weaker, with little doing on this market. Joe Bowers is a less active trader and holds under 18. Lower Mammoth is stronger. Mammoth will pay a $40,000-dividend August 1st, which announcement yesterday advanced the shares above $2. Mercur droops around $7. Northern Light about holds its own. Omaha is higher. Ontario has fallen off a few points. Sacramento to-day declared the $5,000-dividend, payable August 1st. Star Consolidated sags. Sunbeam is more in favor.

San Francisco. July 22.

(From Our Special Correspondent.)

There has been nothing exciting or important to affect the market this week. The reports from the Comstock have nothing new in them, and several small assessments have been announced. The market, accordingly, has been weak and prices lower. The business has been on the usual small scale, selling and buying being on small terms and by small operators. The public still lets the exchange alone.

Some prices noted are: Consolidated California & Virginia, $2@$2.05; Ophir, $1.05@$1.10; Caledonia, 60c.; Sierra Nevada, 60c.; Potosi, 54@55c.; Hale & Norcross, 35c.; Chollar, 27@28c.; Savage, 23c.

A new crop of Comstock assessments is coming forward. More are announced this week: Belcher, 10c.; Chollar, 15c., and Sierra Nevada, 15c. Several more are expected to follow soon.

There is some talk of extending the Sutro tunnel westward under Mount Davidson to see what can be found. President Leonard spoke of it here a little while ago, and said that the question would be brought up at the annual meeting of the company.

The talk of cheap electric power for Comstock mills is still kept up, but no definite progress can be recorded. The facts seem to be that certain parties have taken up all the water rights they could get on the Carson River, and are ready to levy toll on the Comstock should it prove worth their while.

The latest weekly official report from the Consolidated California & Virginia mine reads as follows: "Work has been as follows: 1,400 level—The west drift has been extended 18 ft.; total, 678 ft. The face is in soft porphyry, with seams of clay and occasional spots of quartz. The clay walls passed through are crushing the timbers so that we had to relieve them during the past week. We have to run 35 ft. to make connection with crosscut No. 2 from the Consolidated Virginia shaft. 1,650 level—Necessary repairs are being made on this level. 1,750 level—The stopes have been extended 1 set south and 1 set west, and in doing so we have extracted 66 tons of ore of a gold value of $18 per ton. From the second floor we are following the clay wall to the southwest with a drift. This clay wall having shown spots of ore, we will, as soon as possible, cut through it and see what is beyond. On the sill floor at the north end of the stopes we ran a crosscut 23 ft. east; face in porphyry and quartz assaying $5 per ton. We have stoped this crosscut and we are now sinking a winze on a hanging wall clay in this east crosscut. The winze is now down 5 ft. in quartz, with streaks of clay and porphyry and some ore. 1,800 level—The station on this level and 30 ft. of the south drift has been cleaned up, the face of the latter being in caved rock. We cannot tell the condition of the drift beyond the cave. We found it necessary to put in a small pump to drain the seepage water out of this level, said water being held back by the slime. Since reaching the station we had occasion to make but two short runs with the pump, and for the last 24 hours we have not run the pump at all. We may, however, find a little water in the drift as we go south. All work in the mine was suspended between the mornings of the 4th and 5th. The machinery on the surface and underground is in good order and working nicely."

London, England. July 12.

(From Our Special Correspondent.)

A recent industrial flotation is the British Westinghouse Electric and Manufacturing Company, Limited, with a capital of £1,500,000, in 200,000 6% preference shares of £5 each, and 50,000 ordinary shares of £10 each, that is formed to establish works for making every description of electrical machinery. The company has secured by an agreement with the Westinghouse Electric and Manufacturing Company, of America, valuable rights for the United Kingdom, its possessions, protectorates and dependencies. George Westinghouse, Jr., the president of the combined American Westinghouse interests, is in England completing the details of the enterprise. A site of 40 acres for the proposed works has been selected at Trafford Park, Manchester. It is stated that the British Westinghouse Company has acquired a ½ interest in the Heilman Works, one of the principal French manufacturers of electric appliances, near Havre.

Paris. July 16.

(From Our Special Correspondent.)

The excitement over the arrival of M. Dreyfus and the preparation for his trial has subsided, and political matters have taken on a quieter form. Nevertheless it is summer, and people are less disposed to do business. It follows that the stock markets have not been very active, and mining stocks have suffered especially.

The market for the Transvaal gold shares has been active, but distinctly weak. Heretofore most of our financiers have held that the troubles between Great Britain and the Transvaal would be settled by negotiation; but now they are listening to the blustering of Mr. Chamberlain, and begin to think that armed intervention may result, with consequent interrruption of the mining industry. The large production of gold in June failed to help the market.

The metallurgical shares have been quiet, and but little attention has been paid to them. This does not apply to the Russian group, which has shown a great deal of movement. There is talk of more additions to this group, and they will probably be taken up without difficulty.

The coal stocks have been in unusual demand, and there seems to be a prospect of a strong speculation in these shares.

Although copper is definitely stronger, the copper shares show little or no gain, and have been very quiet all through the week. Speculation has not pointed that way. An attempt has been made to place here some of the new copper stocks which are being brought out in London, but our people do not take them, and the effort failed completely. It may be renewed later.

The zinc and lead shares have taken an upward turn, though the change is slight. The rise is justified by the high prices of the metals, which are fully maintained and promise to increase also. In zinc especially the supply is kept up by extreme activity at the mines is not large enough for the demand, and buyers have to wait some time for deliveries.

The gold and silver movement in France for the five months ending May 31st is reported by the Ministry of Commerce as below:

	Imports, Francs.	Exports, Francs.	Excess, Francs.
Gold:			
1899	129,027,366	64,967,801	Imp. 64,059,563
1898	92,397,086	140,350,333	Exp. 47,953,247
1897	66,608,700	33,336,304	Imp. 33,272,396
Silver:			
1899	80,558,378	82,694,296	Exp. 2,135,918
1898	76,125,538	48,015,811	Imp. 28,109,727
1897	80,375,977	66,395,418	Imp. 13,980,559

Imports of copper, bronze and nickel coins, rated at their face or coinage value, were 29,700 fr. this year, 36,900 fr. in 1898, and 44,100 fr. in 1897. Exports of these coins this year were 304,200 fr.; this compares with 282,600 fr. in 1898, and 1,901,700 fr. in 1897.

The Mint is again in the market for a considerable quantity of silver. The white metal is needed chiefly for colonial and foreign coins which have been ordered; though some French silver coins are to be made also.

The foreign merchandise commerce of France for the six months ending June 30th is reported by the Ministry of Commerce as below:

	1898. Francs.	1899. Francs.
Imports	2,341,829,000	2,186,314,000
Exports	1,686,388,000	1,854,108,000
Excess, imports	655,441,000	332,206,000

The decrease of 155,515,000 fr. in imports was entirely in food-grain; the increase of 167,720,000 fr. in exports was largely in manufactures. There was a consequent decrease of 323,235,000 fr. in the surplus of exports over imports.

M. Méline, in his journal the "Republique Francaise," has taken alarm at a passage in the speech made by M. Millerand, the Minister of Commerce, at the American banquet on July 4th, at which he was a guest. He stated that a treaty of commerce was about to be concluded between France and the United States by which each country would concede its minimum tariff to the other. This, the Minister said, was a natural consequence of the arrangement come to last year, by which the duties were mutually reduced on a limited number of articles. M. Méline remarks that if the reduction last year—he was then the Premier—was restricted to a few articles, the reason was that the Government of the time knew that the concessions made by France would not imperil French agriculture and industry. But there was a difference between opening the door a little and opening it wide. The present Minister of Commerce, M. Méline supposes, had not studied economic questions, and does not comprehend the necessity for such a distinction. He declares, in fine, that by conceding to the United States the most favored nation treatment, M. Millerand will infallibly ruin a great number of branches of French industry and agriculture, which being unable to support an unequal competition, will have no other resource than to wind up their affairs. He predicts for the Minister of Commerce the maledictions of the working classes when the men are without work and their wives and children without food. All this is in the familiar Mélinesque style. Azote.

STOCK QUOTATIONS.

NEW YORK.

NAME OF COMPANY.	Location.	Par val.	July 21. H.	July 21. L.	July 22. H.	July 22. L.	July 24. H.	July 24. L.	July 25. H.	July 25. L.	July 26. H.	July 26. L.	July 27. H.	July 27. L.	Sales
Adams Con	Colo.	$10	.07	....	.08	....	.10	..	.06	....	.05	....	.08	....	1,000
Alamo	"	1	.08	....	.09	....	.08	....	....	....	.08	....	....	....	2,000
Alice	Mont.	5	.65	....	.65	....	.80	....	.75	....	1.10	....	.90	....	200
Alliance	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
*Anaconda, c	Mont.	25	57.00	56.00	56.00	55.50	55.75	55.50	55.88	55.88	55.75	55.50	....	....	10,410
Anaconda Gold	Colo.	5	.44	....	.45	....	.45	....	.50	....	.49	....	....	....	400
AnchoriaLel	"	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Argentum-Jun	"	2	.24	....	.23	....	.23	....	.24	....	.24	....	....	....	....
Belcher	Nev.	3	.23	....	....	....	....	....	.24	....	.20	....	....	....	....
Best & Belcher	"	3	.60	....	....	....	....	....	.57	....	.50	....	.50	....	700
Breece	Colo.	5	1.65	....	1.65	....	....	....	1.70	....	1.65	....	....	....	....
Brunswick	Cal.	1	.15	....	.15	....	.15	....	.15	....	.15	....	.15	....	....
Bullion	Nev.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Catalpa	Colo.	10	....	....	....	....	.27	....	.20	....	.20	....	....	....	100
Chollar	Nev.	2	34	.33	.25	....	....	....	.27	....	.24	....	.21	....	200
Chrysolite	Colo.	50	....	....	....	....	....	....	....	....	....	....	....	....	....
Comst'k T.,b'ds	Nev.	100	.04	....	....	....	.04	....	.04	....	.04	....	....	....	....
do. stock	"	100	.04	....	.05	....	.04	....	.04	....	.05	....	....	....	2,500
do. scrip	"	100	.04	....	....	....	.06	....	.04	....	.04	....	....	....	....
Con. Cal. & Va	"	2½	1.90	....	2 10	....	1.90	....	1.90	....	2.15	....	2.00	....	150
Con. imperial	"	1	....	....	¥.08	....	....	....	....	....	....	....	....	....	600
Cr & Cr. Creek	Colo.	1	.07	....	....	....	.07	....	.07	....	.09	....	....	....	....
Crescent	"	10	.16	....	....	....	.18	....	.15	....	.20	....	....	....	800
Cripple Cr. Con	"	1	.10	....	....	....	.12	....	.12	....	.09	....	....	....	1,000
Crown Point	Nev.	3	.22	....	.23	....	....	....	.22	....	.20	....	....	....	....
Deadw'd Terra	S.Dak	25	.60	....	.60	....	.60	....	.60	....	.60	....	....	....	....
Elkton	Colo.	1	.90	....	....	....	.90	....	.90	....	.80	....	....	....	....
Enterprise	"	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Eureka	Nev.	20	....	....	.35	....	.30	....	.40	....	.45	....	....	....	....
Father de Smet	Dak.	100	.10	....	.10	....	.10	....	.10	....	.10	....	.10	....	....
Garf. Con	Colo.	1	.13	....	....	....	....	....	.13	....	.13	....	....	....	....
Gilpin & Linc'n	"	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Gold Coin C.Ck	"	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Gold Coin Glip	"	5	....	....	....	....	....	....	....	....	....	....	....	....	....
Golden Fleece	"	1	.24	....	.25	....	.27	....	.27	....	.27	....	....	....	....
Gould & Curry	Nev.	3	.34	....	.35	....	.35	....	.34	....	.37	....	.38	....	....
Gregory Gold	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Hale&Norcross	Nev.	3	.31	....	.35	....	.30	....	.30	....	.32	....	.30	....	....
High Five	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Homestake	S.Dak	100	65.00	....	65.00	....	60 00	....	65.00	....	65.00	....	60.00	....	....
Horn Silver	Utah.	25	1.20	....	1.20	....	1.20	....	1.35	....	1.50	....	1.25	....	100
Iron Silver	Colo.	20	.60	....	.50	....	....	....	.50	....	.50	....	.50	....	2.0
Isabella	"	1	.90	....	.90	....	.80	....	.85	....	.82½	....	....	....	6.0
Jefferson	"	1	....	....	.05	....	....	....	....	....	....	....	....	....	....
Jennie Blanche	"	1	....	....	....	....	....	....	....	....	.53½	....	....	....	....
Justine	"	1	.01	....	.01	....	.01	....	.01	....	.01	....	....	....	....
King & Femb	Ont.	10	.18	....	.40	....	.35	....	.20	....	....	....	....	....	....
La Crosse	Colo.	10	.16	....	.16	....	....	....	....	....	.16	....	.16	....	....
Leadville Con	"	10	.09	....	.08	....	.09	....	.09	....	.09	....	.09	....	....
Little Chief	"	50	.20	....	.22	....	.20	....	.19	....	.19	....	.18	....	200
Mexican	Nev.	8	.50	....	.60	....	.45	....	.48	....	.60	....	.51	....	3.0
Mollie Gibson	Colo.	5	.24	....	.24	....	.24	....	.24	....	.24	....	....	....	....
Morenci Cop.pf	Ariz.	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Moulton	Mont.	25	....	....	....	....	.30	....	....	....	....	....	.30	....	....
Mt. Rosa	Colo.	1	.23	....	.23	....	.24	....	.23	....	.24	....	....	....	500
Occidental	Nev.	3	.20	....	.20	....	.20	....	.20	....	.20	....	....	....	....
Ontario	Utah.	100	6.50	....	7.25	....	6.50	....	6.50	....	6.50	....	6.50	....	100
Ophir	Nev.	8	1 00	....	1.00	....	1 00	....	1.00	....	1.10	....	1.00	....	....
Pharmacist	Colo.	1	.04	....	.04	....	.04	....	.06	....	.04	....	....	....	500
Phoenix	Ariz.	1	.12	.11	.10	....	.11	....	.08	....	.08	.07	....	....	900
Plymouth Con	Cal.	10	.10	....	.10	....	.10	....	.10	....	.10	....	.10	....	....
Portland	Colo.	1	1.80	....	1.80	....	1.90	....	1.85	....	1.85	....	....	....	....
Potosi	Nev.	3	.52	....	.50	....	.45	....	.48	....	.48	....	.45	....	600
Quicksilver	Cal.	100	2.10	....	2.10	....	2 10	....	2.10	....	2.10	....	2.10	....	....
do. pref	"	100	8 00	....	8.00	....	8 00	....	8.00	....	11.50	....	8.00	....	10
Rocky Mtn	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Savage	Nev.	2½	.32	....	....	....	.20	....	.18	....	....	....	....	....	....
Sierra Nevada	"	3	....	....	.55	....	.55	....	....	....	....	....	....	....	....
Small Hopes	Colo.	20	1.35	....	1.25	....	1.25	....	1.15	....	1.25	....	1.25	....	200
Specimen	"	1	.06	....	.06	....	.06	....	.06	....	.07	....	....	....	....
Standard Con	Cal.	10	2.50	....	2.25	....	2.60	....	2.25	....	2.50	2.45	2.50	....	500
Syndicate	"	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Union	Colo.	1	.25	....	.24	....	.24	....	.27	....	.28	....	....	....	....
Union Con	Nev.	2½	.25	....	.24	....	....	....	.27	....	.28	....	.33	....	....
Utah Con	"	5	....	....	....	....	....	....	.14	....	.10	....	....	....	1,000
Work	Colo.	1	.21	....	.20	....	.22	....	.24	.21	.21	....	....	....	1,000
Yellow Jacket	Nev.	8	.30	....	.30	....	.30	....	.27	....	.37	....	.30	....	100

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.	.....	$100	39½	37¾	40	39½	39½	38¾	38¼	37⅝	37½	37	38	....	6,740
" " " pf	.....	100	86	84½	86⅜	85½	85⅝	81¼	85¼	84½	84¼	84	84¼	..	3,594
Am.S &W Co n	.....	100	56⅜	55⅜	56⅝	56⅛	56⅛	56	56⅝	56⅜	56¾	56	56⅜	....	14,795
" pf rn	.....	100	96	93¾	96	95¾	....	....	96	....	96⅜	96⅜	96¼	....	1,675
Central of N. J	N. J	100	116¾	116	116½	....	....	....	116	115¾	....	....	115¾	....	2,421
Col. Fuel & I.	Colo.	100	46	45¼	....	....	45¾	45⅛	45	....	45¼	....	46	....	1,260
Col. & H.C.& I.	Ohio.	100	15	14⅜	....	....	14⅜	....	....	....	....	....	....	....	300
Del. & Hud.	N. Y.	100	123	122¼	....	....	121¾	121¼	....	....	122	121⅝	122¼	....	923
Federal Steel	.....	100	58¼	58¼	58¾	58⅛	58	57⅜	58⅜	57¼	58⅜	57¾	58	....	9,555
" pf	.....	100	83⅜	79¾	80¼	80	81	80¼	81	80¼	80¼	80	....	....	5,157
National Lead	N. Y.	100	31¼	30½	31¾	....	30¼	....	30½	....	30	....	....	....	1,530
" " pf	Md.	100	....	....	....	....	....	....	112¾	....	112	....	....	....	250
National Salt	.....	100	45	40	45	40	45	40	45	40	45	40	....	....	....
" " pf	.....	100	†77	74	77	74	77	74	74	70	73	68	....	....	....
New Central C.	....	....	39	37	39	37	40	37	39	37	39	37	....	....	....
N. Y., Ont. & W.	N. Y.	100	26¼	26½	....	....	26	....	26	25¾	26½	25¾	25¾	....	3,825
Phila. & Read	Pa.	100	20⅜	....	20¾	....	20⅛	....	20⅛	20⅛	....	....	20⅛	....	1,600
" " 1st pf.	.....	100	61½	60¾	61	60	59¾	59½	59⅝	59⅝	59½	59⅝	59½	....	17,990
Standard Oil	.....	100	467	465¾	467	463	456	464	466	463	466	463	....	....	....
Tenn.C.,I.&R.R.	Ala.	100	70	69¼	69	68¾	68¾	....	69¾	69	69¾	69	69¾	....	10,150
" " pf	"	100	....	....	....	....	....	....	....	....	....	....	....	....	....

*Ex-dividend. †Assessment paid.

PHILADELPHIA PA.

NAME OF COMPANY.	L'cation.	Par Val.	July 20. H.	July 20. L.	July 21. H.	July 21. L.	July 22. H.	July 22. L.	July 24. H.	July 24. L.	July 25. H.	July 25. L.	July 26. H.	July 26. L.	Sales
Bethlehem I	Pa.	$50	63.25	....	63 50	63.25	63 63	....	....	....	63.50	63.25	....	....	195
Cambria Iron	"	50	45.13	....	....	....	45.13	....	45.25	45.13	....	....	....	....	166
Cambria Steel	"	50	22 88	22.75	22.88	....	23 00	22.88	23.0	22.75	23.00	....	23.13	23.00	2,150
Choctaw, pref.	I T.	50	48.50	....	....	....	....	....	48.00	....	48.00	....	....	....	237
Choc. Tr. ctf.	"	50	....	....	....	....	....	....	....	....	....	....	....	....	....
Lehigh Val	Pa.	50	26 63	26 13	26.75	....	26.50	....	26.50	26.25	26.50	....	....	....	1,125
Penna. R. R.	"	50	67.50	67.38	68.00	67 75	68.30	....	68.00	67.38	68.63	68.13	68 63	68.25	4,265
Penna. Steel	"	100	89 50	89.00	....	....	....	....	....	....	89.00	....	89.00	....	229
" "pr'f	"	100	....	....	....	....	....	....	....	....	....	....	....	....	61
United Gas I	"	50	167	....	167	....	167½	167	171	161	172	170¾	170⅝	170	4,559
Welsb. of Can	Can.	100	....	....	....	....	2.00	....	2 00	....	....	....	....	....	67
Welsb. Coml	"	100	....	....	....	....	....	....	9.38	9.25	10.88	10.75	....	....	575
" " pf.	"	100	....	....	....	....	....	....	....	....	62.00	60.00	....	....	55
Welsb. Light	"	100	....	....	....	....	44.00	42.50	47.50	44.50	47.00	....	47.00	46.50	2,619

Total shares sold, 15,297.

VALPARAISO, CHILE.* June 18.

NAME OF COMPANY.	Location.	Capital paid.	Sh.Val. paid up.	Last Div'nd. Amt.	Last Div'nd. Date.	Prices. Bid.	Prices. Asked.	Prices. Last sal
Arturo Prat, silver	Chile	$3,300,000	$100	4 p. c.	1897	21½	22	22
Caracoles, silver	"	315,000	100	10 "	1894	....	....	....
Huantajaya (mine) silver	"	1,000,000	100	12 "	1894	....	....	....
Huanchaca, silver	Bolivia	8,000,000	25	4 "	1895	37	38	38¼
Oruro, silver	Chile	800,000	200	....	....	250	280	280
Todos Santos, silver	"	2,000,000	100	1 "	1895	....	5	6
Agua Santa nitrate	"	3,000,000	50	5 "	1898	145	145	145
Antofagasta, nitrate	"	2,000,000	200	2 "	1898	125	128	125
Soc. Internacional, nitrate	"	960,000	60	....	....	1	5	....
Union, nitrate	"	8,000,000	200	....	....	32	37	35

Special report of Jackson Bros. Values are in Chilean pesos or dollars.

BOSTON MASS.†

NAME OF COMPANY.	Par val.	No. of shares.	July 20. H.	July 20. L.	July 21. H.	July 21. L.	July 22. H.	July 22. L.	July 24. H.	July 24. L.	July 25. H.	July 25. L.	July 26. H.	July 26. L.	Sales
Aetna, cons. g	$25	100,000	....	....	4.50	....	....	....	....	....	....	....	....	....	250
Adven'r'e,Cons	25	100,000	9.50	....	9 00	....	....	....	9.50	....	9.75	....	....	....	171
Allouez, c	25	80,000	....	....	7.75	....	8.00	....	....	....	....	....	8.50	7.75	163
Am. Z., L. & S.	25	60,000	48 00	....	....	....	....	....	49.00	....	....	....	49.50	47.50	565
Anaconda	25	1,200,000	....	....	....	....	....	....	....	....	....	....	56.25	....	495
Arcadian, c	25	100,000	64.00	....	....	....	65.00	64.00	65.00	64.25	70.00	65.00	69 63	67.50	7,317
Arnold, c	25	60,000	14.25	....	13.00	14.50	....	....	....	....	15.00	14.25	15.25	15.00	2,105
Ashbed, c	25	40,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Atlantic, c	25	40,000	30.00	....	32 00	30.00	....	....	30.00	....	....	....	....	....	350
Baltic, c	25	100,000	33 00	32 00	34 00	33.25	33.50	....	33.00	....	33 50	33.00	33 00	....	840
Bingham, c.&g.	10	100,000	....	....	12.50	....	....	....	13.00	12.00	13 00	12.38	13.00	12.75	1,825
Bonanza, g	10	300,000	2 25	2.00	2.00	....	2 00	....	2.00	1.00	2.00	....	2.00	1 00	15 165
Boston Mg	....	....	7.00	....	7.00	....	....	....	....	....	7.00	6.88	....	....	800
Bos.&Mon.Tr.R	25	200,000	370	365	368	367	368	....	368	....	368	367	368	....	506
Breece	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
British C., Ltd	....	....	....	....	11.00	....	....	....	....	....	....	....	....	....	15
Butte & Bost., c	10	200,000	....	....	....	....	....	....	....	....	79.88	78.00	79 88	....	400
Cal. & Hecla, c	25	200,000	799	795½	900	799	817	810	815	810	....	....	820	....	141
Catalpa, s	10	100,000	.30	....	....	....	....	....	....	....	....	....	....	....	200
Centennial, c	25	800,000	....	....	34 00	....	....	....	33.50	....	33 50	....	34.00	....	210
Cochiti, g	10	90,000	13.88	13.50	13.75	....	....	....	14.50	13.38	15.00	14.25	14.50	14.25	6,229
Copper Range	10	150,000	44.50	....	44.50	....	45.00	....	....	....	....	....	....	....	215
Crescent, s	10	800,000	....	....	....	....	20	....	....	....	....	....	....	....	400
Dominion Coal	100	300,000	52.38	51.75	51 50	51.25	51.00	....	52.00	50.50	53 00	52.00	52.00	50 25	4,285
do. pref	100	150,000	....	....	1.18	....	1.17	1.16	....	....	....	....	....	....	23
Federal Steel	100	30,000	58 00	57 25	58 38	....	59.75	58.00	57.75	57.38	58.38	58.00	....	....	1,316
do. pref	100	464,843	....	....	80.25	80.00	80.25	80.13	....	....	80.50	....	81.00	80.00	213
Franklin, c	25	827,676	19 25	....	19.00	....	....	....	....	....	19.25	....	19.50	....	195
Gold Coin, s	5	200,000	....	....	....	....	....	....	.50	....	....	....	....	....	150
Guanajuato	5	114,000	....	....	....	....	....	....	....	....	....	....	....	....	....
" pf.	5	81,167	....	....	....	....	....	....	....	....	....	....	....	....	....
Humboldt, c	25	40,000	....	....	2.50	....	....	....	....	....	....	....	....	....	5
I. Royal Con. c	25	100,000	44.50	44.25	44 50	44.00	44 00	....	....	....	48.00	45.50	47 75	47.00	2,300
Mass. con	25	100,000	12.00	....	12.50	....	....	....	12.00	....	13.00	12.50	13.00	....	705
Merced, g	15	100,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Michigan	25	100,000	....	....	....	....	13.75	....	....	....	14.00	....	13.75	....	180
Mohawk, c	25	100,000	26.25	....	26 25	....	26.50	26.25	....	....	26.50	26 25	....	....	385
Napa	5	100,000	....	....	10 00	9.75	....	....	10.00	....	....	....	....	....	550
New Idria	....	....	....	....	12.00	....	....	....	....	....	....	....	....	....	250
N.A.Gold Dre'g	10	100,000	....	....	34.00	....	....	....	....	....	34 50	34.00	....	....	200
Old Colony, c	25	100,000	....	....	10.00	....	....	....	....	....	10.38	10.00	10.00	....	336
Old Dominion,c	25	150,000	38.00	37.00	37.25	37 00	....	....	38.00	37.0	38.00	37 00	38.25	38.00	748
Osceola, c	25	93,000	88.00	87.50	....	....	....	....	87.50	86.75	87.50	....	88.50	87.50	326
Parrot, s c	10	230,000	53.00	....	53.50	53.00	53.00	....	53.00	52.00	53 25	52.50	53.63	52.63	1,916
Pioneer, g	10	100,000	2.00	....	2.18	....	2 00	....	....	....	2.00	....	2 00	....	575
Quincy, c	25	100,000	170	....	....	....	....	....	161	....	....	....	....	....	9
Rhode Island	25	100,000	....	....	8.00	7.50	....	....	....	....	8.00	7 50	....	....	215
Santa Fe, g. & c	10	250,000	13.50	13 25	13.88	....	13 63	13.50	....	....	13 63	13 25	13 63	13.25	1,375
San. Ysabel, g	5	130,000	....	....	....	....	....	....	....	....	12.50	....	12 50	....	115
Tamarack, c	25	60,000	....	....	....	....	222	....	222	221	221¾	....	....	....	11
Tecumseh, c	25	40,000	....	....	6.25	6.00	....	....	6 38	6.00	....	....	....	....	700
TrimountainMg	25	100,000	....	....	....	....	11.25	....	....	....	11 00	....	10.75	....	210
U.C.L.& Mg. Co	25	80,000	....	....	....	....	....	....	....	....	....	....	....	....	....
United States	25	250,000	....	....	....	....	....	....	23.00	22.50	23.00	22.63	23.00	22.50	1,210
Utah Cons,g &c	5	300,000	43.75	43 00	43.50	43.00	43.00	....	....	....	44.75	43.50	44 50	43.25	2,645
Victor, g	5	200,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Victoria	25	100,000	6.00	....	5.00	....	5.00	....	5.50	....	5.25	....	5.50	5.00	550
Washington	25	40,000	2.00	....	....	....	....	....	....	....	....	....	....	....	50
White Knob	100	50,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Winona, c	25	100,000	....	....	....	....	....	....	13.50	....	13.50	....	13 00	....	220
Wolverine, c	25	60,000	46.50	....	46 50	46 00	47 25	46.75	46.50	....	....	....	....	....	520
Wyandotte	25	100,000	....	....	5.50	....	6.00	....	6.00	....	5.88	5.75	5.50	....	215

†Official quotations Boston Stock Exchange. Total sales, 60,945.

COLORADO SPRINGS, COLO.‡

NAME OF COMPANY.	Par val.	July 17. B.	July 17. A.	July 18. B.	July 18. A.	July 19. B.	July 19. A.	July 20. B.	July 20. A.	July 21. B.	July 21. A.	July 22. B.	July 22. A.	Sales.
Alamo	$1	.09½	.09¾	.09½	.09¾	.09½	.09¾	.03½	.09¾	.09½	.09¾	.09¾	.09¾	16,000
Anaconda	1	.47	.48	.47	....	.48½	.49	.48	.49	.48	.48½	.48	.50	3,450
Arg'ntumJ	1	.26¾	....	....	....	.26	....	.26	.27	.26½	.28	.27	.28	1,750
Cadillac	1	.01½	.01¾	.03¼	.04	.03¾	.03¾	....	....	....	....	....	....	25,000
C. C. Con	1	.10	....	.10¾	.10¾	.10¼	.10¼	....	....	....	....	.09¼	.10	7,500
Dante	1	.11¾	.11½	.11¾	.12	.12¾	....	....	....	....	....	....	....	47,000
EltonCon	1	....	.92	.93¾	.93	....	....	.91	.95	.92	.93	.93¾	.93½	6,330
El Paso G	1	.30	....	.30½	....	.31	.33	.33	.35	.35¼	.35¼	.36	.36¼	14,545
Favorite	1	....	....	.04¾	....	....	....	....	....	....	....	....	....	8,000
Findley	1	.20	.20½	.20	.20¼	.20¼	.20½	.19¾	.20	.19	.19¼	.18½	.18¾	42,900
Golden Fl	1	....	....	....	....	....	....	.25	.26	.25	.26	.24	.30	....
Gold Hill	1	.03	....	.03	....	....	....	....	....	....	....	....	....	9,000
Ing. Con	1	.08¼	....	....	....	....	....	....	....	....	....	....	....	1,000
Isabella	1	.78¾	.79¾	.80	.82¾	.82½	.84	.83½	.87	.88	.89½	.86¼	.86¾	35,550
Jack Pot	1	.36¼	....	.37¾	.38	.38	.39½	.39	.39¾	.39¼	.39¾	.39¾	.40	37,050
Lexington	1	....	....	.11	.11¾	....	....	....	....	....	....	....	....	4,500
Magnet R	1	.01¾	....	.01¾	....	....	....	....	....	....	....	....	....	4,000
Matoa	1	.31¾	.32	.32¼	.33½	.32¾	....	....	....	....	....	.32	.33	13,100
Midway	1	.06¾	....	.06¾	....	....	....	....	....	....	....	....	....	4,000
Mobile	1	.05¼	.05½	.06	.06¼	.06¾	.06¾	....	....	....	....	....	....	46,500
Mollie Gib	1	....	....	....	....	....	....	.25	.26	.25	.26	.25½	.27	100
Montreal	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Moon-A'c'r	1	1.09	....	1.10	1.11	....	....	1.10½	1 12½	1.10	1.11½	1.10½	1.12½	2,150
Mt. Rosa	1	....	....	....	....	....	....	.25	.27½	.25	.27½	.25	.27	....
New Haven	1	....	....	.02¾	....	.02¾	....	....	....	....	....	....	....	4,000
Oriole	1	.05¾	....	....	.06	.06¼	....	....	....	....	....	....	....	16,000
Pilgrim C	1	....	....	....	.06	....	....	....	....	....	....	....	....	1,000
Pinnacle	1	.17¾	.17¾	.17¾	.17¾	.18	.18¼	.20	.20½	.20½	.20¾	.19¾	.19¼	29,500
Portland	1	1.94	....	1.95	....	1.95	....	1.92	1.98½	1.90	1.92	1.95	1.96	6,900
Prince Alb	1	.03¾	.03¾	.03¾	....	.03¾	....	....	....	....	....	....	....	5,500
Princess	1	.04¾	....	.05	....	....	....	....	....	....	....	....	....	7,000
Pythias	1	....	....	....	.04¾	....	....	....	....	....	....	....	....	1,000
Specimen	1	.09½	....	.09¾	.09¾	.09¾	.09½	....	....	....	....	....	....	18,000
Tornado	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Trachyte	1	.06¾	....	.06¾	....	.06¾	.06¾	....	....	....	....	....	....	8,000
Union	1	.28¼	.28¾	.28¾	.28¾	.28¼	....	.27¾	.28	.28	.28¼	.28¼	.28¾	30,500
Uncle Sam	1	.05¾	....	....	....	.05	.05¾	....	....	....	....	....	....	8,000
Vindicator	1	.99	....	.99	....	.96¾	....	.95	.97¼	.90	....	.99¼	1.00	1,800
Work	1	.24¼	.24¾	.21¼	.21¾	.24	.24¼	24	.24¾	24¾	.24¾	.24¼	.24¼	56 350

‡

STOCK QUOTATIONS.

DENVER, COLO.‡

NAME OF COMPANY.	Par val.	July 17. B.	July 17. A.	July 18 B.	July 18 A.	July 19. B.	July 19. A.	July 20. B.	July 20. A.	July 21. B.	July 21. A.	July 22. B.	July 22. A.	Sales.
Mines:														
Anac'da G..	$5	.46¼	.49	.46	.....	.47	.49	.46½	.49	.46	.48¾	.46½	.48¼	500
Arg. J.....	1	.26	.....	.26	.....	.26	.....	.25	.....	.26½	.....	.25½	.....	.....
Bangkok...	1	.01¼	.....	.....	.....	.01¾	.....	.01½	.....	.01¾	.....	.01¾	.....	.....
Bankers....	1	.08¼	.....	.08¾	.....	.08½	.....	.08½	.09	.08¾	.....	.09¾	.10	4,000
CrippleC.C.	1	.10	.....	.....	.11	.....	.11	.....	.10	.10	11	.....	.12	.....
Della S.....	1	.03	.....	.03¼	.....	.....	.....	.03¾	.....	.03¼	.....	.03¼	.....	.....
Elkton Con	1	.92	.....	.93	.95	.92½	.93	.92	.....	.....	.....	.....	.94	.....
El Paso....	1	.28¾	.....	.....	.....	.32½	.32½	.....	.34½	.33½	.....	.35	.....	.....
Fanny R....	1	.39	.....	.39	.....	.....	.....	.....	.....	.....	.....	.42	.....	.....
Findley....	1	.19¾	.....	.....	.....	.20½	.21	.19½	.....	.....	.19½	.....	.18½	4,000
Garf. Con..	1	.13¼	.....	.13¾	.....	.13¾	.....	.13½	.13¾	.....	.14½	.13½	.14½	1,000
Gold Coin.	1	2.00	.....	1.95	.....	2.00	.....	.....	.....	2 00	.....	.....	.....	200
Indepnd'nc	1	.57¾	.58½	.58½	.62	.60	.....	.60	.61½	.60	.62½	.62½	.....	.....
Iron Clad..	1	.05½	.....	.05½	.....	.05½	.06	.05¼	.....	.05½	.....	.05¾	.....	1 000
Isabella....	1	.81	.....	.83	.85	.....	.....	.88½	.89	.89	.....	.....	.86	1,900
Jack Pot...	1	.38¾	.....	.38	.....	.38¾	.....	.....	.....	.39¼	.....	.39¼	.....	.....
Jefferson..	1	.06¾	.07¾	.06¾	.07	.07¼	.08	.07	.....	.....	.....	.06¾	.07¾	.....
Keystone...	1	.12	.....	.12	.....	.13¾	.13¼	.13	.13½	.....	.13½	.13¾	.13¾	1,000
LosAngeles	1	.08¾	.09	.08¾	.09	.08¾	.....	.08¾	.....	.08¾	.09¼	.05½	.09	3,000
Mollie Gib.	5	.24	.....	.25	.....	.24	.27	.....	.27¾	.24¾	.....	.24½	.....	.....
NewZealnd	1	.29¼	.32	.28	.32	.27	.32	.28¾	.32	.....	.32	.....	.32	.....
Ophir.....	1	.31	.35	.....	.35	.....	.35	.32½	.34	.....	.36	.36	.....	.....
Pharmacist	5	.04	.....	.04	.....	.03¾	.04½	.....	.04¾	.04¼	.....	.04¾	.04¾	3,000
Portland..	1	1.95	2.00	1.92	.....	.....	1.98	1.91	1.95	1.91	1.95	.....	1.95	.....
Specimen..	1	.....	.....	.....	.09	.09¼	.09½	.09½	.....	.09¾	.1¾	.....	.....	3.000
Union Gold	1	.28¼	.29	.28	.28½	.27½	.28	.27¾	.28½	.27¾	.28¾	.27½	..	2,500
Work.....	1	.24¼	.24½	.24½	.24¾	.24	.....	.23¾	.....	.24	.....	.24	.....	2,000
Prosp'cts:														
C.C Imp....	1	.....	.....	.001½	.003½	.....	.....	.002	.....	.002	.004¾	.002¼	.002¾	52,000
Gene Field.	1	.002	.002¾	.....	.....	.002	.002½	.002	.002¾	.002	.002½	.002	.002½	.....
Illinois....	1	.007½	.....	.008	.....	.007½	.....	.007¾	.....	.008½	.....	.008¾	.....	1,000
Old Gold....	1	.01¾	.013¾	.013½	.014½	.013¾	.015	.....	.013	015	013	.013¾	.013¾	2,000
Puritan....	1	.004¾	.005	.004	.....	.004¾	.....	.004¾	.0.5¼	.....	.....	.....	.....	2,000
Miscell.‡														
Acacia.....	1	.13¾	.18½	.13½	14	.....	.14	13½	.13¾	.13¾	.14¼	.....	.13¾	15,000
Alamo.....	1	.....	.10	.....	.09¾	.09¼	.10	.09½	.10	.....	10	09¼	.09¾	.....
Aola.....	1	.02¾	.02¾	.....	.03½	.02¾	.....	.....	.....	.02¾	.02¾	.03	.....	.....
Battle Mt..	1	30	.....	.30	.....	.29¾	.....	.30	.....	.30	.....	.30¾	.....	.....
C. C. & M...	1	.10	.10½	.11	.....	.....	.11¾	.11¾	.11¾	.11¼	.12¾	.11¾	.12¼	24,'60
De Beers ...	1	.01¼	.....	.01¼	.....	.....	.....	.....	.....	.01	.....	.01¼	.....	28,083
Des Moines	1	.03	.....	.03¾	.....	.....	.03¾	.03¼	.03¾	.011¾	04	.03¾	.....	2,000
Favorite....	1	.04¾	.....	.04¼	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goldstone..	1	.013¾	.015	.01¾	.01½	.01¾	.01¾	.01¾	.01¼	.01¼	.01¾	01¾	.01¼	6,000
Insley.....	1	.....	.....	.....	.....	.....	.....	.03¾	.006	.....	.....	.....	.....	.....
Magnet R....	1	.04¼	.....	.04¾	.....	.04¼	.....	.04¼	.....	.04¾	.04½	.04½	.05	6,000
Mobile.....	1	.05¾	.....	.....	.....	.06¾	.....	.05¾	.06¼	.....	.....	.....	.....	.....
Trachyte...	1	.06¾	.....	.08	.....	.06	.....	.....	.....	.07	.....	.....	.....	.....
Wh.of For.c	1	.....	.007	.006	.007¼	.....	.....	.007½	.007	.0.8	.006	.008	.....	.007¼	.....

‡ Official Quotations Denver Stock Exchange. Sales: Mines, 27,10) shares; Prospects, in cluding those mentioned, 57,000 shares; Miscellaneous, 81,083 shares; total, 165,133 shares.

SAN FRANCISCO, CAL.

NAME OF COMPANY.	Location.	Par. value.	July 20.	July 21.	July 22.	July 24.	July 25.	July 26
Alpha Con.....	Nev.	1.00	.04	.03	.03	.03	.03	.03
Alta.....	"	2.00	.08	.10	.08	.06	.07	.07
Andes.....	"	3 00	.16	.16	.16	.15	.18	.18
Belcher.....	"	3 00	.25	.24	.25	.27	.26	.27
Best & Belcher.....	"	3 00	.53	.50	.50	.51	.55	.53
Bullion.....	"	1.00	.09	.09	.09	.08	.08	.08
Caledonia	"	3.00	.63	.59	.59	.56	.59	.63
Challenge Con.....	"	3.00	.25	.25	.25	.23	.24	.25
Chollar.....	"	3.00	.30	.26	.25	.23	.23	.23
Confidence.....	"	3.00	.85	.85	.85	.85	.84	.93
Con. California & Virginia...	"	2 50	2 00	2.00	2 00	2.00	2.10	2.10
Cons. Imperial.....	"	1.00	.01	.01	.01	.02	.02	.01
Cons. New York.....	"	1.00	.....	.....	.....	.....	.....	.....
Crown Point	"	3.00	.24	.24	.24	.24	.24	.26
Exchequer.....	"	1.00	.....	.....	.....	.....	.....	.....
Gould & Curry.....	"	3.00	.38	.38	.38	.40	.41	.41
Hale & Norcross	"	3.00	.35	.34	.33	.33	.34	.34
Julia Con.....	"	1.00	.02	.02	.02	.02	.02	.02
Justice.....	"	2.00	.07	.07	.07	.07	.07	.07
Kentuck Con.....	"	1.00	.03	.03	.03	.04	.04	.04
Mexican.....	"	3.00	.53	.52	.52	.53	.58	.57
Occidental Con.....	"	3.00	.25	.25	.24	.23	.23	.23
Ophir.....	"	3 00	1.05	1.05	1.05	1.05	1.15	1.10
Overman.....	"	2.00	.11	.11	.11	.10	.11	.11
Potosi.....	"	3.00	.57	54	.51	.51	.53	.51
Savage.....	"	2 50	.25	22	.22	.22	.23	.23
Seg. Belcher & M.....	"	2.00	.07	.07	.07	.06	06	.06
Sierra Nevada.....	"	3.00	.61	.59	.59	.....	.62	.61
Silver Hill.....	"	1.00	.....	.....	.....	.....	.....	.....
Standard.....	Cal.	10.00	2 35	2.35	2.31	2.50	2.43	2.65
Union Con.....	Nev.	2.50	.36	.35	.36	.35	.37	.36
Utah Con.....	"	1.00	.12	.11	.11	.11	.11	.11
Yellow Jacket.....	"	3.00	.34	.34	.33	.30	.34	.37

Official telegraphic quotations of San Francisco Stock Exchange.

TORONTO, CAN.*

NAME OF COMPANY.	Par Val.	July 19. B.	July 19. A.	July 20. B.	July 20. A.	July 21. B.	July 21. A.	July 22. B.	July 22. A.	July 24. B.	July 24. A.	July 25. B.	July 25. A.	Sales
Ontario:														
Bullion.....	$1	.65	.....	.50	.65	.60	.....	.70	.....	.63	.....	.60	63	25
Empress.....	1	.03½	.05	.03½	.05	03½	.05	.04½	.05¾	03	.03¾	.03¾	.05½	500
Golden Star	1	.39	.40¾	.3¾	.42	41¾	45	.44¾	.45¾	.42½	.45	41	.43	93,100
Ham Reef..	1	.20	.25	.20	.25½	.20	.25	.25	.....	.19½	.25	.25	.....	200
J. O. M....	1	.02	.03½	.02¾	.03	.02¾	.03	.02¾	.08	.02¾	03¾	.02	.04	9,500
Olive.....	1	.70	80	.70	.80	.75	.83	.80	.....	.70	.82	85	.....	500
British Col.:														
Alice A.....	1	.19	.22	.19½	.20¾	19¼	22	.20	.20¼	19	.21	.18	.21	4,500
Dardanelles	1	.11¾	12¾	.11½	.13	.11¾	.13	.11¾	.18	11¾	.12¾	.12	.12¾	10,500
Deer T'l No.2	1	.24¾	.27	.22	.25	.23¾	.24¾	.23¼	.24	.23	.26	.22¾	.24¾	11,500
Even'g Star	1	.08¾	.10½	.09	10¾	08	.10¾	.09	.10	.08¾	.10¾	.08¾	10	5,000
F'view corp	¾	.08	.09	.08	.09	.08	.10	.08¼	.09	.08	.10	.07¾	.08½	5,500
Iron Horse.	1	.09	.10½	.08	.10¾	.07½	.11	.....	.....	.08	.10	.....	.....	.....
Iron Mask..	1	.65	.75	.65	.72	.65	.75	.....	.....	65	.75	.65	.75	3,000
Knob Hill...	1	.94	98	90	.95	.....	.....	.92	.97	.....	.....	.....	.....	1,000
Minnehaha.	1	.19¾	.21½	.19¼	.22	.18	.22	.19¼	.22	.20	.22	.20	.22	500
Noble Five..	1	.18	.25	18½	.22	.22	.....	.23	.....	.22	.24	.22	.25	500
N'rt'n Belle.	1	.01¾	.03	.01½	.03½	.....	.....	.04	.....	.01¾	.03	.01¾	.02½	10,300
Old Irons'es	1	.....	.....	1.10	.....	1.07	1.18	1.00	1.09	.....	.....	.....	.....	100
Rambler C..	¾	.24¾	.28	.24	.28	.25¾	.28	.25¾	.28	.....	.25	25	28	2,500
Rathmullen	1	.06¾	.07¾	.06¾	.07¾	06¾	.07½	.07	.07¾	.06¾	.07¾	.06¾	.07¾	6,000
Republic...	1	1.18	1 28	1.10	1 2>	1.17	1.22	1.22	.....	1.20	1.32	1.18	1 22	600
Silver Bell..	¾	.0.8¼	.04	01¾	.03	.01¾	.04	01¾	.03	.02	.08	.01¾	03	9,500
Smuggler....	1	.02	03	.01¾	.04	.01½	.03	02	.02½	01¾	.02½	.01¾	.02¼	3,400
Van Anda..	1	.09¾	11¾	.10¼	.11¾	10¾	.12	.11	.11½	10¾	.11	10¾	.11	21,3 0
Victory Tri.	1	05½	07	.05	0.3½	05	07	.03	.06½	.03	.05	04	.06	1,500
War Eagle..	1	3.60	3.69	3.60	3.69	3 64	3 70	3.69	.....	3 62	3.69	3.69	.....	.....
Waterloo...	1.10	.07¾	.10¼	.07¾	.10¼	.07¾	.10¼	.07¾	.10¾	.07¾	10¾	.08	10¾	2 5 0
White Bear.	1	.03½	04¼	.03	.04½	03½	.05	03½	.04½	03¾	.04½	03¾	.05	2,500
Winnepeg..	1	.31½	.33	.30	.32	28	32	.29	.30	27	.31	29½	.32	2,500
Develop Co.														
B.C.G.F'lds	1	.03¾	.04½	03	08	03½	.05	.03¾	.05	.03¾	75	.03	.04¾	1,000
Can.G.F.S..	0.10	.07	08¾	.06¼	.08¾	06¾	.08	.07	.08¾	.06¾	.08¾	.07	.08	.....
Gold Hills	1	.04½	.06	.04¾	.06½	.04¾	06	.05	05½	.05	.06	.04¾	.05¾	500

*Official quotations of the Standard and Toronto Mining and Industrial Exchanges. Total, shares sold, 404,475.

SALT LAKE CITY, UTAH.* July 22.

STOCKS.†	No. of shares	Par val.	Bid.	Asked.	STOCKS.†	No. of shares.	Par val.	Bid.	Asked
Ajax.....	300,000	$10	$.90	.....	Homestake.....	400,000	$1	$0.09¾	.....
Alice.....	400,000	25	.62½	$1 00	Horn Silver.....	400,000	25	1 25	$1.70
Anchor.....	150,000	10	.70	80	Joe Bowers ...	400,000	1	.17½	.17¾
Buckeye.....	500,000	1	.03¾	.04½	Little Pittsburg	400,000	5	.08½	.12¾
Bullion-Beck & Ch.	100,000	10	5.80	.....	Lower Mammoth	150,000	1	36¼	.38
Centennial Eureka	30,000	50	$0 00	33.00	Mammoth.....	400,000	5	2.03	2.05
Chloride Point.....	800,000	1	.74	1.00	Mercur.....	200,000	25	6 95	7.01
Daisy.....	500,000	3	.29¾	.30½	Northern Light..	400,000	5	.38¾	.39
Dalton.....	500,000	5	.01½	02	Omaha.....	800,000	2	.25	.40
Dalton & Lark....	2,500,000	1	.08¾	.10¾	Ontario.....	150,000	100	6.50	7 50
Daly.....	150,000	20	1.49	1.52	Richmond-An. ..	500,000	1	.10	.11½
Daly West.....	150,000	20	12.10	12 50	Sacramento.....	1,000,000	5	.45	.47½
Dexter.....	200,000	5	2.20	2.45	Silver King.....	150,000	20	43.00	50.00
Eagle.....	150,000	1	.05	.06	Star Consolidat'd	500,000	1	.75	.80
Eagle & Blue Bell.	250,000	1	1 40	2.00	Sunbeam.....	250,000	1	.45	.50
Emerald.....	300,000	1	.10¾	.11½	Sunshine.....	250,000	10	39	.60
Four Aces.....	250,000	1	.21	.22½	Swansea.....	100,000	5	3.92½	4.20
Galena.....	100,000	10	.31	.35	South Swansea..	150,000	1	1.70	1 75
Geyser-Marion.....	900,000	5	.50	51¾	Utah.....	100,000	20	.60	1.01
Grand Central	250,000	1	9 20	10.00	Valeo	200,000	10	.73½	.75

*From Our Special Correspondent. † Utah companies. § Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

ROSSLAND, BRITISH COLUMBIA.* July 20.

NAME OF COMPANY.	No. of shares.	Par value.	Selling price.	NAME OF COMPANY.	No. of shares.	Par value.	Selling price.
Brandon & Gold. Cr..	1,500,000	$1	$0 28	Lerwick.....	500,000	$1	.....
Brit. Amer. Corp'at'n	7,500,000	5	5.00	Lily May.....	1,000,000	1	.....
Brit.Col. Dev. Co....	1,500,000	2½	.....	Lon.&Van.Fin.Dev.Co	500,000	5	.....
Canadian Gold Fields	10,000,000	0.10	.10	London B. C. Gold F..	250,000	5	.....
Caribou.....	1,500,000	1	1.30	Monte Cristo.....	1,000,000	1	.....
Commander.....	500,000	1	.....	New Gold Fields, B.C.	250,000	1	.....
Deer Park.....	1,000,000	1	.....	Novelty.....	1,000,000	1	.....
Dundee.....	1,000,000	1	25	Queen Bess Prop....	120,000	5	.....
Evening Star.....	1,000,000	1	.12	Rambler Con.....	1,000,000	1	.....
Fern.....	300,000	¼	.45	Reco.....	1,200,000	1	1.00
Gold Fields of B.C...	3,000,000	3¾	.....	Red Mt.View.....	1,000,000	1	.....
Hall Mines.....	250,000	5	3.12	St. Elmo.....	1,000,000	1	.....
Hattie Brown.....	1,000,000	1	.....	St. Paul.....	1,000,000	1	.....
Homestake.....	1,000,000	1	.06	Sarah Lee.....	1,000,000	1	.....
Iron Colt.....	1,000,000	1	.....	Silver Queen.....	1,500,000	1	.15
Iron Horse.....	1,000,000	1	.....	Slocan Star.....	500,000	1	1.25
Iron Mask.....	500,000	1	.85	Vic.Tr. MinesDev. Co.	25,000	5	.....
Josie.....	700,000	1	.....	Virginia	500,000	1	.....
Jumbo.....	500,000	1	.....	War Eagle Con.....	2,000,000	1	3.75
Kenneth.....	1,000,000	1	.....	Waverly Mines.....	100,000	5	.....
Keystone.....	1,500,000	1	.....	White Bear.....	3,000,000	1.	.10
KootenayGold Fields	20,000	5	.....	Wild Horse.....	400,000	1	.....

* From Our Special Correspondent.

MEXICO. July 13.

NAME OF COMPANY.	No. of shares.	Last div'd.	Prices. Op'g.	Prices. Cl'g.	NAME OF COMPANY.	No. of shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.
Chihuahua:					Hidalgo:				
Gloria.....	1,500	.....	$50	$50	Real del Monte...	2,354	10 00	760	750
Durango:					San Francisco Hc	6,000	2.00	170	193
Barradon y Cab....	2,400	.....	50	40	San Rafael y An.	1,200	10.00	1,010	1,000
Candelaria de Pan.	1,200	.....	20	20	do. aviado	1,200	6.00	420	400
Capuzaya.....	2,400	.....	50	30	do. del Oro.....	3,000	5.00	20	5
Penoles.....	2,500	30.00	2,000	2,000	Soledad..... ..	960	5 00	350	290
Restauradora.....	10,000	.....	30	30	Sorpresa.....	960	5.00	228	240
Rosario y Anexas..	4,800	.....	10	10	Union Hacienda..	2,000	5.00	385	380
Guanajuato:					Mexico:				
Angustias.....	2,400	5.00	350	340	Coronas.....	.....	.....	75	75
Cinco Senores y An	2,000	15.00	330	300	Esperanza y An..	3,000	10.00	1,350	1,450
El Oro.....	500	.....	30	30	Michoacan				
do. pref.	2,000	.....	30	30	Luz de Borda ava	3,000	.....	22	30
Guadalupe Hacie'a	10,000	5.00	200	250	do. aviado.....	1,000	.....	20	20
Trinidad, aviador .	2,000	.....	115	90	Pueblo:				
do. aviado.....	400	.....	100	95	Tlauzingo.....	2,400	.....	27	28
Zona Minera de Paz	2,400	.....	60	68	S. Luis Potosi:				
Hidalgo:					Concep. y An.....	2,400	.....	60	100
Amistad y Concord.	9,600	1.52	34	32	Sta.MariadelaPaz	2,400	10.00	715	720
Arevalo.....	720	.....	100	200	Zacatecas:				
Bartolome de Med.	2,000	3.00	80	70	Asturiana y An..	2,500	10.00	93	130
Carmen.....	1,100	7.75	465	450	Cabezon	2,400	.....	15	15
Luz de Maravillas..	1,100	.....	180	150	C'delar. de Pinos.	2,530	.....	95	90
Pabellon.....	2,400	27.89	20	20	Palma de Somb..	2,400	.....	100	80

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

PARIS. July 6.

NAME OF COMPANY.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning.	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot....	France.....	Steel mfrs..	27,000,000	2,000	75.00	2,020.00	2,075.00
" " Firminy....	"	" "	3,000,000	500	85.00	3,500 00	3,500 00
" " Fives-Lille..	"	" "	12,000,000	500	35.00	582.00	566.00
" " Huta-Bank..	Russia.....	Iron & steel	.....	500	.....	4,500.00	4,480.00
" " la Marine..	France.....	Steel mfrs..	20,000,000	500	40.00	1,630.00	1,630.00
" " Longwy....	"	" "	.....	500	35.00	1,28.0.	1,275.00
Anzin.....	"	Coal.....	.....	190.00	5,975.0(	5,899.00	
Biache-St. Vaast.....	"	Steel.....	.....	1,000	160.00	3,800.00	3,800.00
Boleo.....	Lower Cal.	Copper.....	.....	500	1.07	2,805.00	2,545.00
Briansk.....	Russia.....	Coal & Iron	.....	500	.....	1,290 00	1,297.50
Bruay.....	France.....	Coal.....	3,000,000	400	900.00	45,000.00	45,000.00
Cape Copper.....	S. Africa....	Copper.....	15,000,000	50	1.50	110.50	107.50
Champ d'Or.....	"	Gold.....	3,375,000	25	3.75	51 00	54.50
Courrieres.....	France.....	Coal.....	600,000	500	60.00	2,510.00	2,495.00
De Beers Consolidated..	S. Africa..	Diamonds ..	98,750,000	125	15.63	707.00	730.00
Denain-Anzin.....	France.....	Steel.....	.....	500	30.00	930.00	934.00
Dombrowa.....	Russia	Coal.....	.....	500	12.50	1,060 00	1,090.00
Donets.....	"	Steel.....	.....	.....	.....	1,320.0.	1,335.00
Dourges.....	"	Coal.....	.....	1,000	300.00	25,000.00	24,750.00
Dynamite Centrale.....	France.....	Explosives..	.....	500	12.50	542.00	546.00
Epinac.....	"	Coal.....	.....	2,500	20.83	575.00	575.00
Escombrera-Bleyberg...	Spain.....	Lead.....	.....	500	35.00	1,097.50	1,087.50
Fraser River.....	Brit. Col'mb	Gold.....	250,000	25	.....	7.00	7.00
Huanchaca.....	Bolivia	Silver.....	40,000,000	125	5.00	51.00	53.00
Langlaagte Estate.....	S. Africa..	Gold.....	11,750,000	25	11.25	85.00	91.00
Lagunas.....	Chile.....	Nitrates	16,250,000	125	12.50	33.00	28.00
Laurium.....	Greece.....	Zinc & lead.	16,300,000	500	30.00	625.00	610.00
Lautaro.....	Chile.....	Nitrates....	13,750,000	125	.....	98.00	90.00
Malfidano.....	Italy.....	Zinc.....	12,500,000	500	40.00	1,310. 0	1,290.00
Metaux, Cie. Fran. de...	France.....	Metal d'lers.	25,000,000	500	30.00	572.00	530.00
Mokta-el-Hadid.....	Algeria.....	Iron.....	18,312,500	500	40.00	1,230.00	1,20 .00
Napthe Baku.....	Russia.....	Petroleum..	.....	.....	.....	880.00	878.00
Napthe, Le.....	"	"	.....	.....	.....	1,875.0.	2,000.00
Napthe Nobel.....	"	"	.....	.....	.....	583 00	635.00
" " " parts....	"	"	.....	.....	.....	13,3.0. 0	13,300.00
Nickel.....	N.Caled'nia	Nickel	10,000,000	200	30.00	395 0 0	393.00
Penarroya.....	Spain.....	Coal, etc....	.....	500	65.00	2,6.0 0	2,600.00
Rebecca.....	Colo'do, U.S.	Gold.....	5,000,000	25	.....	6.00	7.00
Rio Tinto.....	Spain.....	Copper.....	40,625,000	125	47.70	1,125.00	1,166.00
" " preferred.....	"	"	40,625,000	125	.....	153.50	152.50
Rive-de-Gier.....	France.....	Coal.....	.....	.....	.....	19.50	20.00
Robinson.....	S. Africa....	Gold.....	68,750,000	125	12.50	271.00	271 00
St. Etienne.....	France.....	Coal.....	.....	.....	18.00	479.75	476.00
Salines de l'Est.....	France.....	Salt.....	.....	500	11.50	265.00	262.00
Salines du Midi.....	France.....	" etc.....	.....	5 0	25.00	900.00	900 00
Selg Gem.de la Rus. Mer	Russia.....	" etc.....	.....	500	25.00	545.00	543.00
Tharsis.....	Spain.....	Copper.....	33,750,000	50	8.75	207.00	207.00
Vicoigne-Neux..... ..	France.....	Coal.....	.....	1,700	700.00	24,000.00	24,0 0.00
Vielle Montagne.....	Belgium.....	Zinc.....	9,000,000	80	30.00	770.00	785.00

STOCK QUOTATIONS.

LONDON.

July 7.

NAME OF COMPANY.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers
			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields	Alaska	£300,000	1 0 0	2 1	Mar., 1899	1 6 0	1 2 6
Alaska-Mexican, g	"	300,000	1 0 0	0 4.8	May, 1899	17 6	1 2 6
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	"	4 10 0	4 15 0
Anaconda, c., s	Montana	4,000,000	5 0 0	5 1¼	May, 1899	11 10 0	11 12 6
Chiapas, g., s., c	Mexico	252,500	1 0 0	.....	.....	7 0	7 0
Con. Gold Fields	"	800,000	1 0 0	.....	.....	17 6	1 2 6
De Lamar, g., s	Idaho	400,000	1 0 0	6	May, 1899	3 0	4 0
Elkhorn Priority (New), s	Colorado	87,500	1 0 0	1 0	June, 1898	1 3	3 9
Golden Gate, g	California	80,000	1 0 0	.....	.....	1 0	2 0
Grand Central, g., s	Mexico	300,000	1 0 0	2 0	Mar., 1899	17 6	1 2 6
Hall Mines, c., s	British Col	280,000	1 0 0	1 0	May, 1898	11 3	13 9
Le Roi, g	" "	1,000,000	5 0 0	.....	.....	6 16 3	6 18 9
Lillie, g	Colorado	250,000	1 0 0	2½	July, 1899	1 6 3	1 8 9
Lillooet, F. R. & Car., g	British Col	300,000	1 0 0	.....	.....	3 0	5 0
Montana, g., s	Montana	680,000	1 0 0	6	Apr., 1899	4 6	5 6
Mountain Copper	California	1,250,000	5 0 0	2 6	Sept., 1898	7 7 6	7 12 6
Newfoundland, c	Newfoundland	250,000	1 0 0	.....	.....	17 6	1 2 6
Palmarejo & Mexican, g., s	Mexico	800,000	1 0 0	.....	.....	2 0	3 0
Plumas-Eureka, g	California	281,250	2 0 0	0 6	Oct., 1898	1 3	2 6
Richmond, g., s., l	Nevada	270,000	5 0 0	1 0	Dec., "	5 0	6 3
Sierra Buttes, g	California	245,000	2 0 0	0 6	Apr., "	5	1 0
Colomb. Hydraulic, g	Colombia	75,000	1 0 0	.....	Jan., 1899	6 3	8 9
Copiapo, c	Chile	200,000	2 0 0	6 0	July, 1899	3 15 0	4 5 0
Frontino & Bolivia, g	Colombia	140,000	1 0 0	1 6	June, 1899	2 2 6	2 5 0
St. John del Rey, g	Brazil	600,000	1 0 0	1 3	June, 1899	1 7 6	1 10 10
Tolima A., s., g	Colombia	70,000	5 0 0	5 0	July, 1897	1 15 0	2 5 0
Tolima B., s., g	"	30,000	5 0 0	5 0	"	1 0 0	1 10 10
UtahCon., g (HighFindBoy)	Utah	300,000	1 0 0	rts.	Mar., 1898	9 0 0	9 10 0
Ymir, g	BritishCol'mbia	200,000	1 0 0	.....	.....	1	1 5 0
British Am. Corp	"	1,500,000	1 0 0	rts.	Dec., 1898	1 0 6	1 1 6
Linares, l	Spain	45,000	8 0 0	12 6	Mar., 1899	7 10 0	8 10 0
Mason & Barry, c., sul	Portugal	630,000	2 0 0	5 0	May, 1899	3 15 0	4 0 0
Rio Tinto, c	Spain	1,625,000	5 0 0	1 7 6	May, 1899	4 6 5 6	4 6 10 0
" pref	"	1,625,000	5 0 0	2 6	May, 1899	6 2 6	6 5 0
Tharsis, c	"	1,250,000	2 0 0	11 0	" 1898	8 0 0	8 5 0
Libala, c	Italy	252,000	5 0 0	2 6	June, 1899	1 17 6	2 1 6
Assoc. Gold Mines	W. Australia	500,000	1 0 0	2 0	June, 1899	9 10 0	9 12 6
Broken Hill Prop., s	N.S.Wales	884,000	8 0 0	1 0	July, 1899	2 2 6	2 5 0
Great Boulder, Prop	W. Australia	1,750,000	1 0 0	1 6	July, 1899	1 8 0	1 9 0
Hannan's Brownhill, g	"	110,000	1 0 0	7 6	Aug., 1899	11 5 0	11 7 6
Ivanhoe Gold Corp	"	1,000,000	5 0 0	5 0	May, 1899	11 8 9	11 11 3
Kalgurlie, g	"	120,000	1 0 0	rts.	Feb., 1899	9 5 0	9 10 0
Lake View Consols, g	"	250,000	1 0 0	5 0	May, 1899	20 13 9	20 16 3
Mt. Lyell M. & R., l., c	Tasmania	975,000	8 0 0	3 0	July, 1899	9 5 0	9 10 0
Mt. Morgan, g	Queensland	1,000,000	1 0 0	7	July, 1899	5 6 3	5 8 9
Waihi, g	New Zealand	320,000	1 0 0	2 0	June, 1899	7 0 0	7 2 6
West Aust. Jt. Stk. L. & P	W. Australia	1,000,000	1 0 0	1 0	Dec., 1898	8 0	8 6
Champion Reef, g	Colar Fields	220,000	10 0 0	3 6	May, 1899	5 2 6	5 5 0
Mysore Gold, g	"	250,000	10 0 0	5 6	Mar., 1899	5 12 3	5 13 9
Nundydroog, g	"	242,000	1 0 0	1 6	" 1899	3 1 3	3 3 9
Ooregum, g	"	145,000	1 0 0	1 6	Aug., 1899	3 13 9	3 16 3
" pref., g	"	120,000	1 0 0	2 6	" 1899	4 10 0	4 12 6
Angelo, g	Transvaal	275,000	1 0 0	5 0	Mar., 1899	7 5 0	7 10 0
Bonanza, g	"	200,000	1 0 0	11 0	June, 1899	14 7 6	14 12 6
British S. Af., chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 1 3	3 3 9
Cape Copper, c	"	600,000	1 0 0	5 0	July, 1899	4 17 6	4 12 6
" pref	"	150,000	2 0 0	5 0	" 1899	4 7 6	4 12 6
City & Suburban (New), g	Transvaal	1,360,000	4 0 0	8 0	Aug., 1899	5 17 6	6 0 0
Con Deep Level, g	"	200,000	1 0 0	x all.	June, 1898	1 7 6	1 12 6
Crown Reef, g	"	120,000	1 0 0	10 0	May, 1899	17 5 0	17 15 0
De Beers Con., d	Cape Colony	3,950,000	5 0 0	21	June, 1899	28 15 0	28 17 6
Durban Roodepoort, g	Transvaal	135,000	1 0 0	5	June, 1899	6 2 6	6 5 0
Ferreira, g	"	90,000	1 0 0	30 0	Feb., 1899	24 0 0	24 5 0
Geldenhuis Deep, g	"	350,000	1 0 0	8 0	Aug., 1899	10 15 0	11 5 0
Geldenhuis Est., g	"	200,000	1 0 0	7 6	" 1899	7 17 6	8 2 6
Ginsberg, g	"	160,000	1 0 0	4 0	Feb., 1899	3 8 9	3 11 3
Henry Nourse, g	"	125,000	1 0 0	10 0	June, 1899	8 10 0	8 15 0
Heriot (New), g	"	125,000	1 0 0	5 0	Aug., 1899	7 2 6	7 7 6
Jagersfontein, d	Orange Fr. St	1,000,000	5 0 0	9 0	June, 1899	14 5 0	14 5 0
Johannesburg Con. Invst	So. Africa	2,750,000	1 0 0	2 0	Aug., 1897	1 11 3	1 13 9
Jubilee, g	Transvaal	50,000	1 0 0	5 0	Aug., 1899	6 5 0	6 15 0
Jumpers, g	"	100,000	1 0 0	5 0	Aug., 1899	5 10 0	5 15 0
Kleinfontein, g	"	275,000	1 0 0	2 0	Mar., 1899	2 15 0	3 17 6
Langlaagte Estate, g	"	500,000	1 0 0	3 0	June, 1899	3 7 6	3 19 0
May Con., g	"	275,000	1 0 0	rts.	June, 1899	5 10 0	5 7 6
Meyer & Charlton, g	"	85,000	1 0 0	rts.	Apr., 1899	6 12 6	6 17 6
Namaqua, c	Cape Colony	200,000	1 0 0	6 6	June, 1899	3 17 6	4 2 6
Primrose (New), g	Transvaal	300,000	1 0 0	6 0	Feb., 1899	4 11 3	4 13 9
Sand Mines, g	So. Africa	400,000	1 0 0	15 0	Aug., 1899	40 15 0	41 0 0
Robinson, g	Transvaal	2,750,000	5 0 0	8 0	Aug., 1899	10 10 0	10 15 0
Sheba, g	"	1,100,000	1 0 0	0 6	July, 1898	1 3 9	1 6 3
Sim. & Jack Prop., g	"	5,000,000	5 0 0	4 0	June, 1899	6 5 0	6 7 6
Wemmer, g	"	80,000	1 0 0	15 0	June, 1899	13 5 0	13 15 0
Welhuter, g	"	860,000	4 0 0	2 0	Feb., 1899	4 10 0	5 0 0
Worcester, g	"	100,000	1 0 0	3 0	May, 1899	3 0 0	3 5 0

§ Dividend pending. * Ex-Dividend.

MEETINGS.

NAME OF COMPANY.	Location.	Meeting.	Date.	Place of Meeting.
Bangkok-CoraBell	Colorado	Annual	Aug. 8.	620 Mining Exchange, Denver, Colo.
Cactus	Utah	"	July 31.	Salt Lake City, Utah.
Calumet & Hecla	Michigan	"	Aug 18.	Boston, Mass.
Gold Treasure	Utah	"	Aug. 10.	35-36 Commercial Blk., SaltLake City, Utah.
Iowa	Colorado	"	Aug. 11.	Denver, Colo.
Silver State	Utah	"	Aug. 12.	428 Atlas Block, Salt Lake City, Utah.

ASSESSMENTS.

NAME OF COMPANY.	Location.	No.	Dlq.	Sale.	Amt.	OFFICE.
Shower Con	Utah	1	June 2	Aug. 2	.02	Salt Lake City, Utah.
			July			
Ben Butler	Utah	..	18	Aug. 15	.02	Progress Bldg., Salt Lake City, Utah.
Cedar Valley	Utah	1	11	July 29	.00½	431 Atlas Block, Salt Lake City.
Central Eureka	Cal.	12	3	July 21	.03	320 Sansome st., San Francisco, Cal.
Con. Imperial	Nev.	42	20	Aug. 10	.01	Mills Building, San Francisco, Cal.
Great Eastern	Utah	2	22	Sept. 9	.00½	Walker Bank Bldg., Salt Lake City.
Joe Bowers Ext.	Utah	..	17	Aug. 4	.01	310 McCornick Bldg., Salt Lake City.
Mayday	Cal.	2	10	Aug. 28	.10	24 Post st., San Francisco, Cal.
National Con	Cal.	7	10	Aug. 1	.05	773 Mission st., San Francisco, Cal.
Pacific	Utah	1	16	Aug. 2	.00⅝	Diamond, Utah.
Silver King	Ariz	21	10	Aug. 8	.25	310 Pine st., San Francisco, Cal.
Tracy	Cal.	1	7	July 31	.05	400 Parrott Bldg., San Francisco, Cal.
Willow Creek	S. D.	..	7	July 22	.00½	Le Mars, Iowa.
			Aug.			
Alpha Con	Nev.	22	16	Sept. 7	.03	309 Montgomery st., San Francisco.
Belcher	Nev.	61	16	Sept. 6	.10	Mills Bldg., San Francisco, Cal.
Best & Belcher	Nev.	67	4	Aug. 25	.10	309 Montgomery st., San Francisco.
Challar	Nev.	..	24	..	.15	Mills Bldg., San Francisco, Cal.
Golden Chan. Gr.	Cal	..	1	..	.01½	
Justice	Nev.	65	8	Aug. 29	.10	309 Montgomery st., San Francisco.
Old Bonanza	Cal.	1	1	Aug. 19	.02½	163 Crocker Bldg., San Francisco, Cal.
Ophir	Nev.	75	8	Aug. 28	.15	309 Montgomery st., San Francisco.
Rose Creek	Cal	3	1	Aug. 19	.05	163 Crocker Bldg., San Francisco, Cal.
Sierra Nevada	Nev.	16	18	Sept. 7	.15	Nevada Block, San Francisco, Cal.

DIVIDENDS.

NAME OF Co.	Date.	Am't.	Paid 1899.	Grand Total.
Alamo, Utah	.....	.....	$2,500	$2,500
Alaska-Mexican	.....	.....	36,000	353,031
Alaska-Treadwell	.....	.....	150,000	4,070,000
Ætna Con	July 1	$10,000	30,000	180,000
American Coal	.....	.....	75,000	652,500
American Gold	.....	.....	48,000	434,000
Am Zinc-L. & Sm	July 1	20,000	20,000	20,000
Anaconda Copper	.....	.....	1 500,000	9,750,000
Anchoria-Leland	.....	.....	36,000	198,000
Apollo Con., Alas	.....	.....	40,000	140,000
Argonaut, Col	.....	.....	120,000	300,000
Aurora Iron	.....	.....	50,000	800,000
Bald. Butte	July11	15,000	75,000	724,648
Bonanza Dev	.....	.....	1,050,000	1,550,000
Boston-Aurora	July25	5,328	5,328	5,328
Boston-Duenweg, g	July15	4,000	12,000	12,000
Boston-Provid'nce	July15	750	4,500	4,500
Boston & Cal	.....	.....	72 000	72,000
Boston & Mont	Aug21	1,500,000	3,150,000	12 275,000
Breece	.....	.....	20,000	50,000
Bul. Bec. & Champ	July15	10,000	70.000	2,388,400
Bunker Hill & S	.....	.....	105.000	705,000
Calumet & Hecla	.....	.....	6.000,000	62,850,000
Cariboo-M'Kinney	.....	.....	75.000	311,965
Centennial Eureka	July15	15,000	105,000	2,135,000
Central Lead	.....	.....	30,000	112,000
Charleston, S. C	.....	.....	20,000	200,000
Colorado Sm	.....	.....	100,000	1,945,000
Consolidation Coal	.....	.....	1205,000	5,716,650
D'rTr'l No 2 Wash	.....	.....	15,000	32,500
Doe Run, Mo	July15	2,500	17,500	77,500
De Lamar, Idaho	.....	.....	48,000	2,346,000
El Dorado, Cal	July20	10,000	10,000	10,000
Empire State, Ida	July15	20,000	124,331	185,638
Fanny Rawlings	.....	.....	10,000	10,000
Ferris-Hag'ty, Wyo	.....	.....	5,000	5,000
Garfield Con	.....	.....	12,000	34,000
Gold Coin, Vict	July25	10,000	70,000	220,000
Golden Cycle	July18	10,000	55,000	208,500
Gold King, Col	.....	.....	30,000	30,000
Golden M. & Ex	.....	.....	10,000	10,000
Golden Star, Ont	July 1	11,000	[41,000	41,000
Grand Central, Ut	July10	37,500	250,000	568,750
Grass Valley Ex	July20	$7,500	$22,500	$22,500
Gwin, Cal	July11	5,000	25,000	76,500
Helena & Frisco	.....	.....	125,000	550 000
High Five, Colo	July25	10,000	10,000	10,000
Highland	July15	20,000	140,000	3,924 718
Holy Terror	.....	.....	5,000	122,000
Homestake	July25	62,500	437,500	7,618.750
Horn Silver	July 1	20,000	40.000	5,270,000
Idaho, B. C	.....	.....	28,000	292.000
Isabella	.....	.....	150,000	450,000
Jack Pot	.....	.....	25,000	25,000
Jamison, Cal	.....	.....	11,700	50,700
Lake Superior Ir	.....	.....	84,000	227,860
Last Chance, B. C	.....	.....	23,000	45,000
Lillie	July 1	11,250	78,750	235,360
Mammoth	Aug. 1	40,000	120,000	1,470,000
Mead, Cal	.....	.....	40,000	120,000
Mercur	July 1	25,000	50,000	1,291.000
Mo. Zinc Fields	July10	2,664	5,328	5,328
Modoc	July25	10,000	70,000	150,000
Montana, Ltd	.....	.....	98,855	453,700
Mont. Ore Pur	July27	80,000	400,000	1,200,000
Morning Star, Cal	.....	.....	44,400	732,600
Moulton, Mont	.....	.....	20,000	480.000
Mt. Shasta, Cal	.....	.....	6,000	6,000
Napa Con	July 1	20,000	60,000	1,010,000
New Central Coal	.....	.....	20,000	470,000
New Idria	July 1	20,000	60,000	140,000
N.Y.& H.-Rosario	July20	15,000	90,000	1,080,000
North Star, Cal	.....	.....	50,000	550,000
Olive	.....	.....	12,000	12,000
Orig. Empire, Cal	.....	.....	50,000	500,000
Osceola	.....	.....	279,000	2,801,500
Parrot	.....	.....	552,000	2,690,898
Pennsylvania Con	July 8	10,300	25.750	84,975
PennsylvaniaCoal	.....	.....	800,000	14,050,000
Pioneer, Cal	.....	.....	12,500	62,500
Portland	July15	60,000	420,000	2,257,080
Queen Bess, B. Col	.....	.....	12,150	12,150
Quicksilver (Pref.)	.....	.....	21,500	1,845,411
Quincy	Aug15	600,000	950,000	11,070,000
Rambler Cariboo	.....	.....	10,000	50,000
Petro, Utah	July28	5,000	5,000	5,000
Republic, Wash	Aug15	$35,000	$129,500	$295,000
Royal, B. C	.....	.....	.....	50,000
Sacramento	Aug. 1	5,000	40 000	97,500
St. Joseph Lead	.....	.....	75,000	2,859,500
Silver King	July10	50,000	325,000	2,075,000
Small Hopes	.....	.....	25,000	3,325,000
Smuggler	July15	10,000	70,000	1,165,000
South Swansea	July21	7,500	30,000	134,060
Standard, Cal	.....	.....	20,000	3,839,226
Standard, Ida	.....	.....	30,000	1,745,000
Strong	July15	25,000	175,000	700,000
Swansea	July10	5 000	35,000	171,500
Tamarack	.....	.....	240,000	5,910,000
Tomboy	.....	.....	80,000	730,000
United Z. & L., pfd	July15	20,000	20,000	20.000
Utah, Utah	.....	.....	2,000	179,000
Vindicator	July20	50,750	128 875	253,750
War Eagle, B. C.	July15	26,250	183,750	361,500
Wolverine	.....	.....	90,000	150,000
Yellow Aster	July10	10,000	65,000	233,789
Grand Total	.....	.....	$3,058,548	$20,137,717	199,673,877

G., Gold.

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Ætna Cons., q	Cal..	$500,000	100,000	$5	*				$180,000	July..	1899	.10
2	Alaska-Mexican, g	Alask	1,000,000	200,000	5					353,031	April.	1899	.10
3	Alaska-Treadwell, g	Alask	5,000,000	200,000	25	*				4,070,000	April.	1899	.37½
4	Alamo, g. c. l	Utah.	125,000	125,000	1	$937	Mar..	1898	.00¼	2,500	April.	1899	.02
5	Alice, g. s	Mont.	10,000,000	400,000	25	*				1,075,000	April.	1898	.05
6	American Coal	Md...	1,500,000	60,000	25					652,500	Mar..	1899	1.25
7	American Gold, g. s. c. l	Colo..	3,000,000	300,000	10	*				407,000	Mar..	1899	.07
8	Am. Zinc, Lead & Sm	Mo...	500,000	200,000	25					20,000	July..	1899	.10
9	Anaconda Copper	Mont.	30,000,000	1,200,000	25	*				9,750,000	May..	1899	1.25
10	Anchoria-Leland, g	Colo..	600,000	600,000	1	*				198,000	April	1899	.03
11	Appie Ellen, g	Colo.	600,000	600,000	1					25,000	Aug..	1898	.01
12	Argonaut	Cal...	2,000,000	200,000	10					300,000	June.	1899	.10
13	Associated, g	Colo..	1,250,000	1,250,000	1	*				72,000	Dec..	1898	.01
14	Atlantic, c	Mich.	1,000,000	40,000	25					780,000	Feb..	1898	1.00
15	Aurora, i	Mich.	2,500,000	100,000	25	*				890,000	June.	1899	.50
16	Bald Butte	Mont.	250,000	250,000	1	*				702,148	May..	1899	.06
17	Big Six, g. s	Colo..	500,000	500,000	1					15,000	May..	1898	.00½
18	Bonanza, Dev	NMex	3,000,000	300,000	10					1,500,000	June.	1899	3.50
19	Boston & California	Cal ..	600,000	600,000	1					36,000	Mar..	1899	.06
20	Boston & Mont. Con	Mont.	3,750,000	150,000	25	*				10,775,000	May..	1899	6.00
21	Breece, i	Colo..	3,500,000	700,000	5					50,000	June.	1899	.05
22	Bullion-Beck & Champ	Utah.	1,000,000	100,000	10	*				2,378,400	June.	1899	.10
23	Bunker Hill & S., s. l	Idaho	3,000,000	300,000	10					705,000	May..	1899	.07
24	Calumet & Hecla, c	Mich.	2,500,000	100,000	25					62,850,000	June.	1899	20.00
25	Cariboo, g	B.C.	800,000	800,000	1					248,965	Feb..	1899	.01½
26	Centen l-Eureka, g. s. l. c	Utah.	1,500,000	30,000	50	30,000	Mar..	1889	1.00	2,120,000	June.	1899	.50
27	Central Lead, l	Mo...	1,000,000	10,000	100	*				112,000	June.	1899	.50
28	Champion, g. s	Cal..	340,000	34,000	10					296,200	April.	1898	.25
29	Charleston, p. r	S. C..	1,000,000	10,000	100	*				200,000	June.	1899	2.00
30	Consolidation Coal	Md...	10,250,000	102,500	100					5,716,650	Feb..	1899	2.00
31	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*				20,000	Dec..	1898	.02
32	Crœsus, g	Cal..	1,000,000	200,000	5					30,000	Dec..	1898	.15
33	Crowned King, g. s. l	Ariz .	6,000,000	600,000	10	*				232,000	Dec..	1898	.02
34	Deadwood-Terra, g	S. D..	5,000,000	200,000	25	*				1,350,000	May..	1898	.15
35	De Lamar, g. s	Idaho	2,000,000	400,000	5					2,346,000	May	1899	.12
36	Deer Trail No. 2	Wash	1,000,000	1,000,000	1					32,500	June.	1899	.00¼
37	Doe Run, l	Mo...	500,000	5,000	100					75,000	June.	1899	.50
38	Elkton Cons., g	Colo..	1,250,000	1,250,000	1					656,961	Nov..	1898	.01½
39	El Paso, g. s	Colo..	650,000	650,000	1					12,393	Jan..	1898	.01
40	Empire State-Idaho	Idaho	1,000,000	100,000	10					185,638	July.	1899	.20
41	Enterprise, s. l	Colo..	500,000	500,000	1					900,000	Sept.	1898	.05
42	Fanny Rawlings, g. s	Colo..	1,000,000	1,000,000	1					10,000	May..	1899	.01
43	Ferris-Haggarty, c.g.s.	Wyo.	1,000,000	1,000,000	1					5,000	Mar..	1899	.00½
44	Garfield Con., g	Colo..	1,200,000	1,200,000	1					34,000	May..	1899	.01
45	Geyser-Marion, g	Utah.	1,500,000	300,000	5					96,000	Sept.	1898	.02
46	Gold Coin of Victor, g	Colo.	1,000,000	1,000,000	1					210,000	June.	1899	.01
47	Golden Cycle, g	Colo..	1,000,000	200,000	5					198,500	June.	1899	.05
48	Gold King, g	Colo..	1,000,000	1,000,000	1					30,000	May..	1899	.02
49	Golden Reward, g	S. D..	1,000,000	100,000	10					155,000	Feb..	1898	.15
50	Golden Star	Ont..	100,000	100,000	1					41,000	July..	1899	.01
51	Grand Central, g	Utah.	250,000	250,000	1					531,250	June.	1899	.15
52	Grass Valley Expl	Cal..	100,000	30,000	2	*				22,500	July..	1899	.25
53	Gwin, g	Cal..	1,000,000	20,000	50	286,000	Jan..	1898		71,500	June.	1899	.25
54	Hall Mines, Ltd	B. C..	1,250,000	250,000	5					160,000	May..	1898	.25
55	Helena & Frisco, l. s	Idaho	2,500,000	500,000	5	*				550,000	June.	1899	.25
56	Highland, g	S. D..	10,000,000	100,000	100	304,000				3,624,718	July.	1899	.20
57	Holy Terror, g	S. D..	500,000	500 000	1					122,000	Mar..	1899	.01
58	Homestake, g	S. D.	12,500,000	125,000	100	200,000	July..	1878	1.00	7,556,250	June.	1899	.50
59	Hope of St. Louis, s	Mont.	1,000,000	100,000	10	*				762,254	Mar..	1898	.10
60	Horn-Silver, g. s. c. sp. l	Utah.	10,000,000	400,000	25	*				5,270,000	July..	1899	.05
61	Idaho	B. C..	500,000	500,000	1					292,000	Jan..	1899	.05¾
62	Iowa, g	Colo..	1,000,000	1,000,000	1					95,000	June.	1898	.00½
63	Iron Mountain, g. s. l. l	Mont.	5,000,000	500,000	10	*				507,500	April.	1898	.02
64	Isabella, g	Colo..	2,250,000	2,250,000	1					448,500	June.	1899	.02
65	Jack Pot, g	Colo..	1,250,000	1,250,000	1					25,000	Mar..	1899	.02½
66	Jamison	Cal ..	3,900,000	390,000	10	144,000	Nov..	1896	.17	50,700	April.	1899	.10
67	Jersey Leasing	Colo.	200,000	158,167	1					137,875	Oct..	1898	.03½
68	Lake Superior Iron	Mich.	2,100,000	84,000	25					736,000	Feb..	1899	1.00
69	Last Chance, s. l	B. C..	500,000	500,000	1					45,000	April.	1899	.05
70	Le Roi	B. C..	5,000,000	200,000	25					825,000	April.	1898	.10
71	Lillie, g	Colo..	1,250,000	250,000	5					235,360	July..	1899	.05
72	Mammoth, g. s. c	Utah.	10,000,000	400,000	25	*				1,430,000	July..	1899	.20
73	Matoa, g	Colo..	1,000,000	1,000,000	1					25,000	Dec..	1898	.02½
74	Mea l, g	Cal..	200,000	200,000	1					120,000	June.	1899	.20
75	Mercur, g	Utah.	5,000,000	200,000	25	*				1,266,000	Jan..	1899	12½
76	Minnesota Iron, i	Minn.	16,500,000	165,000	100	*				4,735,000	Oct..	1898	1.50
77	Modoc, g	Colo..	500,000	500,000	1					140,000	June.	1899	.02
78	Montana, Ltd., g. s	Mont.	3,300,000	657,128	5	*				453,700	April.	1899	.12
79	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*				1,200,000	July..	1899	1.00
80	Moon-Anchor Con,, g	Colo..	1,750,000	600,000	1					261,000	Nov..	1898	.07½
81	Morning Star, g	Cal...	240,000	2,400	100	70,800	Feb..	1887	.75	732,690	June.	1899	2.50
82	Monument	Colo..	300,000	300,000	1					12,624	Dec..	1898	.01
83	Mt. Rosa, g	Colo..	1,000,000	1,000,000	1					60,000	Jan..	1898	.02
84	Mt. Shasta	Cal..	100,000	20,000	5					6,000	May..	1899	.30
85	Moulton	Mont.	2,000,000	400,000	5					480,00	Feb..	1899	.05
86	Mountain Copper	Cal ..	6,250,000	250,000	25					93,750	Sept..	1898	.62½
87	Napa Cons., q	Cal ..	700,000	100,000	7	*				1,010,000	July.	1899	.20
88	New Central Coal	Md...	1,000,000	50,000	20					470,000	April.	1899	.40
89	New Idria, q	Cal...	500,000	100,000	5					140,000	July.	1899	.20
90	N.Y.&Hon Rosario, s. g	C. A..	1,500,000	150,000	10	*				1,065,000	June.	1899	.10
91	North Star, g	Cal ..	5,000,000	500,000	10	20,000	June	1885	.02	550,000	April.	1899	.25
92	Nugget	Colo..	1,000,000	1,000,000	1					20,000	Aug..	1898	.00½
93	Orphan Bell, g	Colo..	1,000,000	1,000,000	1					115,000	Mar..	1898	.01
94	Original Empire, g	Cal..	5,000,0 0	50,000	100	975,000	Aug..	1896	1.25	500,000	May..	1899	1.00
95	Osceola, c	Mich.	2,500,000	93,000	25	*				2,801,500	June.	1899	3.00
96	Parrot, c	Mont.	2,300,000	230,000	10	*				2,690,898	May..	1899	1.50
97	Pennsylvania Coal	Pa....	5,000,000	100,000	50					14,050,000	May..	1899	8.00
98	Pennsylvania Cons	Cal..	5,150,000	51,500	100	50,051	Feb..	1892	.05	84,975	July..	1899	.20
99	Pioneer g	Cal..	1,000,000	100,000	10					62,500	Mar..	1899	.12½
100	Portland, g	Colo..	3,000,000	3,000,000	1	*				2,197,080	June.	1899	.02
101	Queen Bess, Prop. s. l	B. C..	500,000	100,000	5					12,150	April.	1899	.12½
102	Quicksilver, pref	Cal...	4,300,000	43,000	100					1,845,411	May..	1899	.50
103	Quicksilver, com	Cal...	5,700,000	57,000	100					643,867	July..	1882	.40
104	Quincy, c	Mich.	2,500,000	100,000	25	*				11,070,000	Aug..	1899	6.00
105	Rambler-Cariboo	B. C..	1,000,000	1,000,000	1	*				50,000	April.	1899	3.01
106	Raven, g	Colo..	1,500,000	1,500,000	1					19,500	Mar..	1898	.01
107	Republic Cons., g	Wash	3,500,000	3 150,000	1					183,000	June.	1899	.01
108	Royal Con., g	B. C..	2,500,000	2,500,000	1					1,050, 300	June.	1899	.01
109	Sacramento, g	Utah.	5,000,000	1,000,000	5					92,500	July..	1899	.00½
110	St. Joseph, l	Mo...	3,000,000	300,000	10	*				2,859,500	June.	1899	.50
111	Santa Rosalia, g. s	Cal...	100,000	100,000	1					125,000	Feb..	1898	1.10
112	Silver King, g. s. l	Utah.	3,000,000	150,000	20	3,000	Jan..	1897	.02	2,025,000	June.	1899	.25
113	Small Hopes, s	Colo..	5,000 000	250,000	20	*				3,325,000	Feb..	1898	.10
114	Smuggler, s. l. z	Colo..	1,000,000	1,000,000	1					1,155,000	June.	1899	.01
115	South Swansea, s. l	Utah.	150,000	150,000	1					126,500	June.	1899	.05
116	Standard Cons., g. s	Cal...	2,000,000	200,000	10	99,888	June.	1890	.50	3,859,226	May..	1899	.10
117	Standard	Idaho	500,000	500,000	1					1,745,000	April.	1899	.06
118	Swansea, s. l	Utah.	500,000	100,000	5					166,500	June.	1899	.05
119	Tamarack, c	Mich.	1,500,000	60,000	25					5,910,000	June.	1899	4.00
120	Tomboy, g	Colo..	2,000,000	200,000	10					730,000	May..	1899	4.00
121	Utah	Utah.	1,000,000	100,000	10	*				179,000	Jan. .	1899	.02
122	Victor, g	Colo..	1,000,000	200,000	5	*				1,155,000	Dec..	1898	.50
123	Vindicator, Cons. g	Colo..	1,500,000	1,015,000	1					253,750	July.	1899	.05
124	War Eagle, Cons	B. C..	2,000,000	1,750,000	1					335,250	June.	1899	.01½
125	Whitewater	B. C..	625,000	125,000	5					194,000	April.	1898	.32
126	Wolverine, c	Mich.	1,500,000	60,000	25	180,000	Mar..	1895	1.00	150,000	April.	1899	1.50
127	Yellow Aster, g	Cal...	1,000,000	100,000	10	*				203,789	May..	1899	.10

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.		
1	Ada Cons., s. l	Utah.	$100,000	100,000	$1	$3,333	Nov..	1895	.01½
2	Alliance, g. s. l	Utah.	150,000	150,000	1	200,000	Dec..	1895	.10
3	Allouez, c	Mich.	2,500,000	100,000	25	1,520,937	June.	1894	1.00
4	Alpha Cons., g. s	Nev..	105,000	105,000	1	316,050	Nov..	1898	.03
5	Alta, s	Nev..	216,000	108,000	2	3,675,710	June.	1899	.05
6	Alta	Utah.	750,000	750,000	1	938	Mar..	1899	.00½
7	American Quartz, g	Cal..	1,000,000	100,000	10	1,000	Feb..	1897	.01
8	Anchor, g. s. l	Utah.	1,500,000	150,000	10	560,000	Aug..	1893	.20
9	Andes, g	Nev..	300,000	100,000	3	1,205,000	June.	1899	.05
10	Arnold, c	Mich.	1,500,000	60,000	25	180,000	Jan..	1899	3.00
11	Baliol, g	Cal..	1,000,000	100,000	10	55,000	Mar..	1898	.30
12	Belcher, s. g	Nev..	312,000	104,000	3	3,525,200	Mar..	1899	.10
13	Belle Isle	Nev..	10,000,000	100,000	100	240,271	July..	1896	.10
14	Benton Con. s	Nev..	10,800,000	108,000	100	587,023	June.	1897	.25
15	Best & Belcher, g. s	Nev..	302,400	100,800	3	2,609,803	Aug..	1899	.10
16	Bogan	Utah.	1,250,000	125,000	10	26,875	Dec..	1897	.01½
17	Boston & Cp. Ck., g	Co'o..	400,000	200,000	2	20,000	Aug..	1898	.10
18	Brunswick Cons., g	Cal..	500,000	500,000	1	160,000	July..	1897	.03
19	Bullion, s. g	Nev..	100,000	100,000	1	3,125,000	May..	1899	.05
20	Caledonia	Nev..	300,000	200,000	3	3,210,000	Nov..	1897	.10
21	Centennial, c	Mich.	2,500,000	100,000	25	460,000	Mar..	1898	3.00
22	Central Eureka, g	Cal...	4,000,000	400,000	10	123,942	July..	1899	.02
23	Challenge Cons, s. g	Nev..	150,000	50,000	3	430,000	Mar..	1899	.05
24	Chollar, g. s	Nev..	336,000	112,000	3	2,059,800	Jan..	1899	.10
25	Confidence, g. s	Nev..	74,880	24,960	3	545,118	May..	1899	.20
26	Con., Cal. & Va	Nev..	540,000	216,000	2½	734,000	May..	1899	.25
27	Cons. Imperial, g. s	Nev..	500,000	500,000	1	2,251,000	July..	1898	.01
28	Con. New York	Nev..	100,000	100,000	1	160,500	Nov..	1898	.03
29	Crown Point, g. s	Nev..	300,000	100,000	3	2,980,000	May..	1899	.10
30	Dalton, s. l	Utah.	2,500,000	500,000	5	58,750	April.	1899	.01
31	Dexter	Nev..	1,000,000	200,000	5	38,000	Apr..	1898	.15
32	Diamond Con	Utah.	1,000,000	200,000	5	8,000	Mar..	1899	.04
33	Eagle, g. s	Cal..	500,000	100,000	5	5,000	Dec..	1896	.05
34	Eagle, g. s	Ore..	1,000,000	100,000	10	6,000	Oct..	1898	.01½
35	Emerald	Utah	300,000	300,000	1	3,000	Oct..	1898	.00½
36	Eureka Cons., g. s. l	Nev..	1,000,000	50,000	20	585,000	Sept..	1898	.20
37	Eureka Con. Drift, g	Cal..	500,000	500,000	1	180,000	July..	1899	.00½
38	Exchequer, g. s	Nev..	1,000,000	100,000	1	1,020,000	Dec..	1897	.05
39	Florence	Utah.	1,000,000	200,000	5	1,000	June.	1899	.00¼
40	Four Aces	Utah.	250,000	250,000	1	5,000	Mar .	1898	.01
41	Galena	Utah.	1,000,000	100,000	10	10,000	Oct..	1898	.10
42	Geyser, s. l	Colo..	5,000,000	500,000	10	1,175,000	May..	1899	.10
43	Gold Belt, g. s	Utah.	500,000	500,000	1	3,012	July..	1896	.06½
44	Gold Coin	Colo..	1,000,000	200,000	5	10,000	Mar..	1899	.05
45	Golden Eagle, g	Nev..	400,000	400,000	1	4,000	April.	1899	.01
46	Golden Fleece Grav, g	Cal..	130,000	130	1000	56,200	Mar..	1897	2.00
47	Gold & Silver Carb	Utah.	500,000	500,000	1	2,500	Mar..	1899	.00½
48	Gould & Curry	Nev..	324,000	108,000	3	4,625,150	July..	1899	.10
49	Granite Hill, g. s	Cal...	500,000	100 000	5	124,000	June.	1899	.08
50	Great Eastern, g	Utah.	1,500,000	300,000	5	5,000	Oct..	1898	.00½
51	Great Western, q	Cal..	5,000,000	50,000	100	75,520	May..	1899	.15
52	Hale & Norcross, g. s	Nev..	11,200,000	112,000	100	5,716,280	May..	1899	.10
53	Head Center Con., s. g	Ariz..	5,000,000	200,000	25	25,125	Mar..	1899	.20
54	Horse Shoe Bar Cons	Cal..	6,000,000	60,000	100	85,800	Jan..	1899	.05
55	Joe Bowers, Ext. gcls	Utah.	112,000	450,000	¼	9,000	July..	1899	.01
56	Julia Con	Nev..	110,000	110,000	1	1,498,800	Jan..	1899	.03
57	Jupiter, g	Cal...	2,000,000	20,000	100	80,000	Feb..	1898	.20
58	Justice, g. s. c	ev..	210,000	105,000	2	3,662,500	Aug..	1899	.10
59	Kentuck	Utah.	600,000	300,000	2	30,000	Aug..	1898	.10
60	Kentuck Cons., s	Nev..	105,000	105,000	1	125,300	June.	1898	.05
61	Lacrosse, g	Colo..	1,000,000	100,000	10	*			
62	Little Pittsburg	Utah.	2,000,000	400,000	5	21,000	June.	1899	.00¾
63	Lower Mammoth	Utah.	150,000	150,000	1	15,000	Oct..	1898	.05
64	Lucky Bill	Utah.	300,000	120,000	2.50	56,400	June.	1898	.01½
65	Marguerite, g	Cal...	500,000	50,000	10	80,000	June.	1899	.10
66	Marina Marsicano, g	Cal...	1,000,000	100,000	10	49,360	June.	1899	.05
67	May Day	Utah.	100,000	400,000	¼	4,000	Jan..	1899	.00½
68	Maydav, g. s	Cal ..	50 000	50,000	1	10,000	July..	1899	.10
69	Mayflower, g	Cal...	1,200,000	60,000	20	6,000	Sept..	1898	.05
70	Merced, g	Cal...	1,500,000	100,000	15	200,000	July..	1896	2.00
71	Meteor, s. l	Utah.	600,000	300,000	2	6,734	Feb..	1899	.01
72	Mexican, g. s	Nev..	302,400	100,800	3	2,268,800	June.	1899	.10
73	Montreal	Utah.	2,500,000	250,000	10	30,625	April.	1899	.05
74	Mt. Diablo s	Nev..	5,000,000	50,000	100	150,000	Dec..	1898	.10
75	Morning Star, s	Nev..	1,500,000	150,000	10	32,500	Dec..	1898	.00½
76	Nashville, g	Cal ..	115,000	11,500	10	2,000	Sept..	1898	.17
77	North Banner, g. s	Cal...	1,000,000	100,000	10	21,794	Oct..	1896	.02
78	North Belle Isle, s	Nev..	10,000,000	100,000	100	523,074	July..	1896	.10
79	No. Gould & Curry	Nev..	100,000	100 000	1	375,000	Dec..	1898	.10
80	Northern Light, g	Utah.	2,000,000	400,000	5	80,000	July..	1898	.10
81	Occidental Cons g s	Nev..	300,000	100,000	3	509,179	April.	1899	.10
82	Ophir, g. s	Nev..	324,000	108,000	3	4,635,968	Aug..	1899	.15
83	Opohonga	Utah.	200,000	100,000	2	1,500	June.	1898	.01
84	Oro Cache, g. s	S. D..	1,250,000	250,000	5	6,250	July..	1893	.00½
85	Osceola, g	Cal ..	10,000,000	100,000	100	10,924	Sept..	1898	.01
86	Overman, g. s	Nev..	230,400	115,200	2	4,135,450	Mar..	1899	.05
87	Peer, s	Ariz..	10,000,000	100,000	100	215,000	July..	1894	.05
88	Peerless, s.	Nev..	10,000,000	100,000	100	410,000	July..	1894	.05
89	Pine Hill, g	Cal ..	1,000,000	100,000	10	30,000	July..	1897	.05
90	Potosi, g. s	Nev..	336,000	112,000	3	2,168,400	May..	1899	.10
91	Red Mountain, s	Colo..	300,000	60,000	5	22,500	Mar..	1891	.12½
92	Rescue, g	Nev..	100,000	10,000	10	5,500	Feb..	1899	.05
93	Reward, g	Cal..	64,000	64,000	1	63,680	Nov..	1898	.02
94	Ridge, c	Mich.	500,000	20,000	25	239,939	Feb..	1897	1.00
95	St. Mary, c	Mich.	1,000,000	40,000	25	4,000	July..	1895	.05
96	Savage, g. s	Nev..	280,000	112,000	2½	7,309,800	Feb..	1899	.10
97	Scorpion, s	Nev..	100,000	100,000	1	445,000	Dec..	1897	.05
98	Seg. Belcher & Mg s	Nev..	200,000	100,000	2	373,000	June.	1899	.05
99	Sevier, g. s	Utah.	1,250,000	250,000	5	50,000	April.	1897	.04
100	Shower Con	Utah.	2,000,000	400,000	5	8,000	Aug..	1899	.02
101	Sierra-Nevada, g. s	Nev..	300,000	100,000	3	6,706,910	Feb..	1898	.20
102	Silver Hill, s	Nev..	108,000	108,000	1	2,220,200	May	1898	.05
103	Silver King, s	Ariz..	10,000,000	100,000	100	490,000	July..	1899	.25
104	Silver Queen, c	Ariz..	5,000,000	200,000	25	*			
105	Silver State, g	Colo..	700,000	700,000	1	*			
106	Silver State, s. g. l	Utah.	100,000	100,000	1	1,000	Sept..	1897	.00½
107	Siskiyou Con., s	Cal ..	2,000,000	200,000	10	46,000	April.	1898	.01
108	Snow Flake	Utah.	500,000	100,000	5	51,000	July..	1899	.02
109	South Fork Con	Utah.	50,000	50,000	1	5,000	Mar..	1898	.01
110	South Side	Mich.	1,000,000	40,000	25	4,000	Jan..	1899	.10
111	Star, g. s	Utah.	1,000,000	300,000	5	7,000	Feb..	1899	.03
112	Success	Utah.	30,000	300,000	0.10	6,750	July..	1899	.01
113	Sunb'am Cons	Utah.	250,000	250,000	1	33,125	June.	1899	.02
114	Tecumseh, c	Mich.	1,000,000	40,000	25	40,000	July..	1897	1.00
115	Temonj, g	Colo..	1,000,000	1,000,000	1				
116	Tetro	Utah.	300,000	300,000	1	27,000	July..	1899	.01
117	Triumph	Utah.	1,000,000	100,000	10	1,000	April.	1899	.01
118	Union Cons., g. s	Nev..	250,000	100,000	2½	2,633,000	Jan..	1899	.03
119	Utah Cons., s	Nev..	100,000	100,000	1	480,000	May..	1899	.05
120	Valeo	Utah.	200,000	200,000	1	10,000	May..	1899	.05
121	Victory, g. s	S. D..	1,250,000	250,000	5	2,625	Nov..	1899	.00½
122	Watt Blue Gravel, g	Cal...	1,100,000	100,000	10	58,000	May..	1899	.03
123	Work, g	Colo..	1,250,000	1,250,000	1				
124	World, g	Colo..	1,500,000	1,500,000	1	*			
125	Yankee Girl	Utah.	250,000	250,000	1	5,000	April.	1899	.02
126	Yellow Jacket, g. s	Nev..	360,000	120,000	3	5,305,000	April.	1899	.15
127	Yellow Jacket	Utah.	300,000	300,000	1	1,500	Dec..	1897	.00½

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. This table is corrected up to July 10. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

	Cust. Meas.	Price.
Abrasives—		
Carborundum, f.o.b.		
Niagara Falls grains..	lb.	$0.10
Powd., F. FF. FFF..	"	.08
Minute No. 1.....	"	.15
No. 15.....	"	1.00
Corundum, N. C.....	"	.07@.10
Chester.....	"	.04½@.05
Emery, Turkish flour...	"	.03
Grains.....	"	.05
Naxos flour.....	"	.03
Grains.....	"	.05
Chester flour.....	"	.03
Grains.....	"	.05
Peekskill flour.....	"	.01¾
Grains.....	"	.02½
Crude, Kuluk, best...lg. ton		18.50
Levant, " ... "		22.00
Naxos (Greek) best "		32.00
Pumice Stone, Am. powd.	lb.	.01@.02
Italian, powdered....	"	.01¼
Lump, per quality....	"	.04@.40
Rottenstone, ground....	"	.02½@.03
Lump, per quality....	"	.05@.14
Rouge.....	"	.17@.30
Tripoli, prepared.....sh. ton.		20.00
Acids—Acetic, 30% pure.	lb.	.02¾
30% ch. pure.....	"	.06½
80% pure.....	"	.09
Benzoic, English.....	oz.	.09@.09½
German.....	lb.	.46@.47
Boracic, pure cryst....	"	.11¼
Powdered.....	"	.11¼@.11¾
Carbolic, cryst. in drums	"	.14½@.15¼
Carbonic, liquid.....	"	.15
Chromic, crude.....	"	.23
Chem. pure.....	"	.50
Absol. ch. pure.....	"	1.75
Hydrochloric, ch. pure.	"	.08
Hydrofluoric, 30%.....	"	.03@.04½
48%.....	"	.05@.06
Best.....		.25
Nitric, chem. pure.....	"	.10
Sulphuric, 98%.....	"	.02
Chem. pure.....	"	.07
Tartaric, cryst.....	"	.32
Powder.....	"	.32½
Alcohol—Grain.....	gal.	2.42@2.44
Refined wood, 95@97%	"	.75@.80
Purified.....	"	1.20@1.50
Alum—Lump.....100 lbs.		1.65
Powdered.....	"	2.50
Ground.....	"	1.75
Chrome, com'l.....	"	3.50
Aluminum—		
Nitrate.....	lb.	1.50
Oxide, com'l, common..	"	.06½
Best.....	"	.30
Pure.....	"	.80
Hydrated.....	"	.05
Sulphate, pure.....	"	.02
Com'l.....	"	1.25
Ammonia—Aqua, 16° ..	"	.04
18°.....	"	.04½@.05½
20°.....	"	.05@.06
26°.....	"	.07@.08
Ammonium—Bromide, p'r"		.52@.53
Carbonate lumps.....	"	.07¼@.07½
Powdered.....	"	.08¼@.08½
Muriate, gran., white...	"	.06
Lump.....	"	.08½
Gray.....	"	.05¾
Nitrate, white, pure (99%)	"	.10¼
Phosphate, com'l.....	"	.2@.15
Chem. pure..	"	.60
Antimony—Glass	"	.30@.40
Needle, lump.....	"	05¼@.06
Powdered, ordinary..	"	.05¼
Best.....	"	.08½
Oxide, com'l white, 95%.	"	.20
Com'l white, 99%.....	"	.35
Com'l gray.....	"	.07@.08
Sulphuret, com'l.....	"	.16
Arsenic—White	"	.04¼@.04¾
Red	"	.07¾@.08½
Asphaltum—		
Ventura, Cal.....sh. ton		32.00
Cuban, refined.....	lb.	.04½
Common.....	"	.02
Egyptian, refined.....	"	.06½
Trinidad, refined.....	"	.01½
San Valentino .....lg. ton		16.00
Gilsonite, Utah, ordinary	lb.	.03¼
Select.....	"	.03¾
Barium—Carbonate,		
Lump, 80@90% ....sh. ton		25.00@27.50
92@98%.....	"	25.25@29.00
Powdered, 80@90%...	lb.	.01¾@02
Chloride, com'l.....	"	.02¼
Chem. pure cryst	"	.05
Nitrate, powdered	"	.07
Oxide, com'l, hyd. cryst	"	.18@.22
Hydrated, pure cryst.	"	.25
Pure, powd.....	"	.27
Sulphate.....	"	.01@.03¾
Barytes—Crude, No. 1..sh. ton		9.00@10.00
No. 2.....	"	8.00@8.25
No. 3.....	"	7.75@8.00
Prime White.....	"	18.00@20.00
Floated.....	"	19.00@20.00
Bauxite—Georgia, f.o.b.		
cars, first grade.....lg. ton		5.10
Second grade..... "		4.35
Alabama, f. o. b. cars		
Rock Run..... "		3.85
Benzole—90%..... gal.		1.00@1.10
Bismuth—Oxide, hydr.. lb		2.25@2.56
Subnitrate cryst..... oz.		.09@.10
Bitumen, "B"..... lb.		.03½
"A".....	"	.05
Bone Ash.....	"	.02¾@.03½
Borax—Cryst. and pow'd	"	.07¼
Calcined.....	"	.20
Bromine—Bulk.....	"	.45
Cadmium—Metallic.....	"	1.90@2.00
Sulphide.....	"	1.90@2.25
Sulphate.....	"	2.00@2.50

	Cust. Meas.	Price.
Calcium—		
Carbide, in ton lots, f. o.		
b. Niagara Falls, N.Y.	lb.	.03@.04
Acetate, pure white.....100 lbs.		1.00
Gray.....	"	1.25@1.30
Brown.....	"	.80@.85
Carbonate, ppt.....	lb.	.05
Chloride.....100 lbs.		.90@1.00
Sulphite.....	lb.	.05
Cement—		
Portland, Am., 400 lbs..	bbl.	1.50@2.00
Foreign.....	"	1.75@2.50
"Rosendale," 300 lbs...	"	.90
Sand cement, 400 lbs...	"	1.55@1.95
Slag cement, imported.	"	1.65
Ceresine—		
Orange and Yellow.....	lb.	.10½@.11½
White.....	"	.11@.13½
Chalk—Lump, bulk.....sh. ton		2.15@2.25
Precipitated.....	lb.	.04@.04½
French..... .....100 lbs.		.30@.35
Chlorine—Liquid.....	lb.	.30
Water.....	"	.15
Chrome Ore—		
(50% chrome) ex-ship....lg. ton		22.00
Sand.....	"	35.00
Clay, China—Am. com.,		
ex-dock, N. Y.....sh. ton		7.50
Am. best, ex-dock, N. Y.	"	8.50
English, common.....lg. ton		11.00
Best grade.....	"	17.00
Fire, ground, f.o.b. Jer-		
sey City, N. J.... ...sh. ton		4.00@5.00
Slip Clay.....		6.00
Cobalt—Carbonate.....	lb.	1.50
Nitrate	"	1.30
Oxide—Black.....	"	1.76
Gray.....	"	2.25
Smalt, blue ordinary	"	.14
Best.....	"	.25
Chem. pure.....	"	5.00
Copperas.....100 lbs.		.60@.62½
Copper—Carbonate.....	lb.	.18@.20
Chloride.....	"	.25
Nitrate, crystals.....	"	.35
Oxide.....	"	.19@.20
Cream of Tarter—crys.	"	.23½
Granulated.....	"	.24
Powdered	"	.23½@.24
Cryolite.....	"	.06½
Explosives—		
Blasting powder, A.....	"	.10
Blasting powder, B.....	"	.05@.05½
"Rackarock," A.....	"	.25
"Rackarock," B.....	"	.18
Judson R.R. powder....	"	.10
Dynamite, (40% nitro-		
glycerine).....	"	.15
(50% nitro-glycerine)..	"	.17
(60% nitro-glycerine)..	"	.19
(75% nitro-glycerine)..	"	.23
Glycerine for nitro		
(32 2-10° Be.).....	"	.11@.11¼
Nitro-Benzole.....	"	.14@.15
Feldspar—Ground.....sh. ton		6.50@7.75
Flint—(See Silica).		
Fluorspar—Am. lump..	"	6.50@7.00
Gravel.....	"	6.00
Crushed.....	"	6.00
Ground.....	"	10.50@11.00
Foreign, lump.....	"	8.00@12.00
Ground.....	"	11.50@14.00
Fuller's Earth—Lump.100 lbs.		.75
Powdered.....	"	.85
Graphite—(See Plumbago).		
Gypsum—		
Am. gr'd (terra alba)...sh. ton		8.00
Fertilizer.....	"	7.00
Rock.....lg. ton		4.00
English and French.....	"	14.00@16.00
Infusorial Earth—Ground.		
American, best.....	"	20.00
French.....	"	37.50
German.....	"	40.00
Iodine—Crude.....100 lbs.		2.45
Resublimed.....		2.85
Iron—Chromate.....	lb.	.03@.10
Muriate	"	.05
Nitrate, com'l.....	"	.01¼@.01¾
True.....	"	.04
Oxide.....	"	.02@.12
Scale.....	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white, b'k'n	lb.	.07¼
Com'l, broken.....	"	.06¼
White, gran.....	"	.08¼
Nitrate, com'l.....	"	.06½@.06¾
Chem. pure.....	"	.35
Lime—Bldg., ab. 250 lbs	bbl.	.65@.75
Finishing.....	lb.	.75@.80
Magnesite—		
Crude, lump (95%) Greece	lg. ton	7.00
German (85%).....	"	12.00
Calcined, 600° C. (Greece)	sh. ton	17.50
1,000° C. (Greece)	"	19.50
3,000° F. (Greece)..lg. ton		30.00
Domestic, soft.....sh. ton		12.00@15.00
Bricks, all magnesite..	M.	185 00
Magnesite and chrome.	"	226.00
Magnesium—		
Metallic, ingots (Ger)..	kg.	5.95@6.90
Powdered (Ger.).....	"	6.19
Ribbon or wire (Ger.).	"	10.00
Carbonate.....	lb.	.10
Chloride, com'l.....	"	01¾
Fused.....	"	.20
Nitrate.....	"	.60
Manganese—Crude, pow'd		
70@75% binoxide...	"	.01¼@.01¼
75@85% binoxide....	"	.01¼@.02½
85@90% binoxide....	"	.02½@.03¼
90@95% binoxide....	"	.02¾@.05½
Carbonate.....	"	.16@.20
Chloride.....	"	.04
Ore, 50%.....	unit	.22@.22½
Marble—Flour .....sh. ton		5.50@8.00

	Cust. Meas.	Price.
Mercury—Bichloride....	lb.	.59@.60
Bisulphate.....	"	.41
Mica—N. Y. gr'nd, coarse	"	.04@.05
Fine.....	"	.06@.08
Sheets, 1½x3 in.....	"	.60
8x10 in.....	"	13.00
Mineral Wool—F. o. b.		
Stanhope, N. J.:		
Slag, ordinary.....100 lbs.		1.00
Selected..... "		1.67
Extra..... "		4.00
Rock, ordinary.....sh. ton		37.00
Selected.....100 lbs.		4.00
Extra ..... "		7.00
Monazite—92%.....sh. ton		140.00
Nickel—Oxide, bl'k No. 1	lb.	1.00
Black No. 2.....	"	.60
Green, No. 1.....	"	1.00
No. 2.....	"	.60
Oils—		
Black, reduced 29 gr.:		
25@30 cold test.....	gal.	.07@.07½
15.....	"	.08@.08½
Zero.....	"	.11@12
Summer.....	"	06½@.07
Smith's Ferry, 33@34 gr.	"	.07½@.08½
West Virginia, 29 gr.....	"	.22@.24
Cylinder, dark steam ref	"	.08@.13
Dark filtered.....	"	.11@.16
Light filtered.....	"	.13@.15½
Extra cold test.....	"	.21@.25
Gasolene, 86° @88°.....	"	.14@.16
90°.....	"	.19@.20
Neutral filtered, lemon,		
33@34 gr.....	"	.13@.18½
White, 33@34 gr.....	"	.21@.23
Wool grade, 32 gr.....	"	.11@.14
Naphtha, crude, 68@72°	"	.10
Deodorized.....	"	.10½
Paraffine, high viscosity	"	.20@.25
903-907 sp. gr	"	.09¼@.09½
903 sp. gr.....	"	.08¾@.08½
883 "	"	.07½@.07¾
865@875 sp. gr.....	"	.07¼@.07½
Red No. 1.....	"	.08¾@.09¼
No. 2.....	"	.08¼@.08¾
Linseed, domestic raw..	"	.36@.39
Boiled	"	41@.42
Calcutta, raw.....	"	.54
Graphite, lubricating,		
Am. dry.....	lb.	.10
In oil.....	"	.12
Axle grease.....	"	.08½@.10
Wood grease.....	"	.05@.06
Ozokerite—Foreign	"	.06@.08
Paints and Colors—		
Benzine, Sumatra.....	"	.35@.40
Marbled.....	"	.27@.28
Chrome green, common	"	.05@.06
Extra.....	"	.12@.15
Chem. pure.....	"	.30@.35
Super.....	"	.10@.12
Yellow, common.....	"	.10
Best.....	"	.25
Silica Graphite, thick..	"	.12
Thinned.....	gal.	1.15
Lampblack—Com'l.....	lb.	.03@.05
Refined.....	"	.08@.10
Calcined.....	"	.12@.20
Fine spirit.....	"	.20@.35
Litharge, Am. powd..	"	.05½@.05¾
English flake.....	"	.07¾@.08
Metallic, brown.....sh. ton		16.00@20.00
Red.....	"	16.00@20.00
Ocher, Am. common....	"	9.25@10.00
Best.....	"	21.25@25.00
Dutch, washed.....	lb.	.04¾@.05
French, washed.....	"	.01¼@.02½
Orange mineral, Am...	"	.07¾@.08¼
Foreign, as to make..	"	.08½@.11
Paris green, pure.....	"	.12@.14
Red lead, American.....	"	.05½@.05¾
Foreign.....	"	.07½@.08
Shellac, "D. C.".....	"	.27@.30
Native.....	"	.17@.18
Turpentine, spirits.....	gal.	.44½@.45
Ultramarine, best.....	lb.	.25
Vermilion, Amer. lead..	"	.14@.16
Quicksilver, bulk...	"	.81
Chinese	"	.80@.90
English, imported....	"	.65
Artificial.....	"	.10@.20
White lead, Am., dry...	"	.05@.05½
In oil.....	"	.05½@.06½
English, in oil.....	"	.07½@.08¼
Whiting, common.....100 lbs.		.40½
Gilders.....	"	.47
Zinc white, Am., ex. dry	lb.	.04¾@.05¼
American, red seal..	"	.07½@.08
Green seal.....	"	.08@.08½
Foreign, red seal, dry	"	.07@.08¾
Green seal, dry.....	"	.07½@.09¾
Foreign, red seal, in oil	"	.10½@.11¼
Green seal, in oil...	"	.11¾@.12½
Plumbago—Am., pulv., f.o.b.,		
Providence, R. I....sh. ton		30.00
Lump.....	"	8.00
German, lump.....100 lbs.		1.50@2.00
Pulverized.....	"	2.25
Ceylon, pulv. common.	lb	.03¾
Best.....	"	.05@.08
Italian, pulv.....	"	.01¼
Potash—Caustic.....	"	.04@.05
Potassium—		
Metallic, in balls (Ger)..	kg.	17.85
Bicarbonate cryst.....	lb.	.08½
Powdered or gran....	"	.12
Bichromate.....	"	.09¾
Bromide.....	"	.46
Carbonate.....	"	.02¾@.03¼
Chromate	"	.35
Cyanide (98@99%).....	"	.28@.30
Permanganate, pure cr.	"	.14@.15
Silicate.....	"	.06
Prussiate, yellow.....	"	.16½@.17¼
Red.....	"	.37@.40

	Cust. Meas.	Price.
Potassium—		
Sulphide, com'l.....	lb.	.10
Quartz—(See Silica).		
Rosin—Common.....	bbl.	1.30
Best.....	"	2.65
Salt—N.Y. com. fine abt.		
380 lbs.....	bbl.	.70
N. Y. agricultural.....sh. ton		1.50
N. Y. coarse..... "		2.30
N. Y. dairy and table... "		2.90
Saltpeter—Crude.....100 lbs.		3.80@3 85
Refined..... "		4.25@5.50
Silica—		
Ground quartz, ord....sh. ton		6.00@8.00
Best..... "		12.00
Lump quartz..... "		2.50@4.00
Fire bricks (Blue Welch) M.		35.00
Silver—Chloride..... oz.		.65
Nitrate..... "		.41@.42½
Oxide..... "		.85@1.10
Sodium—Metallic..... lb.		.75
Acetate, com'l..... "		.03½
Bichromate..... "		.07¾
Bisulphite, com'l..... "		.01½
Bromide ..... "		.49@.50
Chlorate, com'l..... "		.09¾@.10
Hyposulphite.....100 lbs.		1.60@1.70
Nitrite..... lb.		.07½@.07¾
Peroxide..... "		.45
Phosphate..... "		.03
Triphosphate ..... "		.04
Silicate, conc..... "		.01@.01½
Sulphate, gran., puri'd.. "		.03
Sulphide.....100 lbs.		1.75
Sulphite..... lb,		.02½
Tungstate, com'l ..... "		.35
Pure..... "		.50
Strontium—Nitrate .... "		.09@.10
Sulphur—Roll.....100 lbs.		1.70
Flour.....		1.80@1.85
Flowers, sublimed... "		2.00
Talc—N. C No. 1.....sh. ton		15.00@15.50
No. 2..... "		10.00@12.00
N. Y., Fibrous..... "		8.00@9.00
French, best..... "		20.00
Italian..... "		20.00@30.00
Tar—Coal..... bbl.		3.00
Tin—Chloride ..... lb.		.11@.13
Crystals..... "		.22@.23
Muriate..... "		.06
Oxide, white, ch. pure.. "		.36@.40
Uranium—Oxide..... "		1.80@2.00
Zinc—Metallic, ch. pure.. "		.09@.10
Carbonate..... "		.15
Chloride ..... "		.06@.08
Dust..... "		.07@.07¼
Sulphate..... "		.02½

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam	grm.	$1.19
Electrol.....	"	5 71
Beryllium—Powder.....	"	5.95
Crystals.....	"	9.04
Nitrate (N. Y.).....	oz.	2.50
Boron—Amorphous, pure	grm	.19
Crystals, pure.....	"	1.43
Nitrate (N. Y.).....	lb.	1.50
Calcium—Electrol.....	"	4.28
Cerium—Fused.....	grm.	2.02
Nitrate (N. Y.).....	lb.	21.00
Chromium—Fused	kg.	5.95
Pure powder 95%.....	"	1.79
Chem. pure cryst.....	grm.	.21
Cobalt—(98@99%)...	kg.	5.35@5.71
Pure.....	"	30.94
Didymium—Powder.....	grm.	3.81
Nitrate (N. Y.).....	oz.	4.00
Erbium	grm.	3.09
Nitrate (N. Y.).....	oz.	3.00
Gallium.....	grain	9.52
Germanium—Powder....	grm.	33.32
Fused.....	"	35.70
Glucinum—Powder.....	"	5.95
Crystals.....	"	9.04
Nitrate (N. Y.).....	oz.	2.50
Indium.....	grm	4.05
Iridium—.....	"	2.38
Lanthanum—Powder....	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.).....	oz.	3.50
Lithium.....	grm.	2.38
Nitrate (N. Y.).....	oz.	.60
Molybdenum—Powder...	kg.	2.62
Fused, electrol 95%.....	100 grms.	15.47
Niobium.....	grm.	3.81
Osmium.....	"	.95
Palladium.....	"	.95
Rhodium.....	"	2.87
Rubidium—Pure.....	"	4.76
Ruthenium—Pure powd	"	2.38
Selenium—Com'l powder	kg	30.94
Sublimed powder.....	"	40.46
Sticks.....	"	33.32
Silicium—Amorphous...100 grms.		2.87
Crystals, pure.....	grm.	5.95
Strontium—Electrol	grm.	6.19
Tantalium—Pure.....	"	3.57
Tellurium—Ch. p. sticks.100 grms.		11.90
Powder.....	"	9.52
Thallium	kg.	23.80
Thorium—Metallic.....	grm.	7.85
Nitrate 49@50% (N. Y.)..	lb.	5.00@5.50
Titanium.....	grm.	.71
Uranium.....	"	.48
Nitrate (N. Y.).....	oz.	.25
Vanadium—Fused.....	grm.	1.19
Wolfram—Fused.....	100 grms.	22.80
Powder, 95@98%.....	kg.	1.90
Chem. pure.....	"	6.42
Yttrium.....	grm.	3.33
Nitrate (N. Y.).....	oz.	4.00
Zirconium—Com'l.....	kg.	119.00
Pure.....	grm.	.71
Nitrate (N. Y.).....	oz.	1.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to June 16th. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.